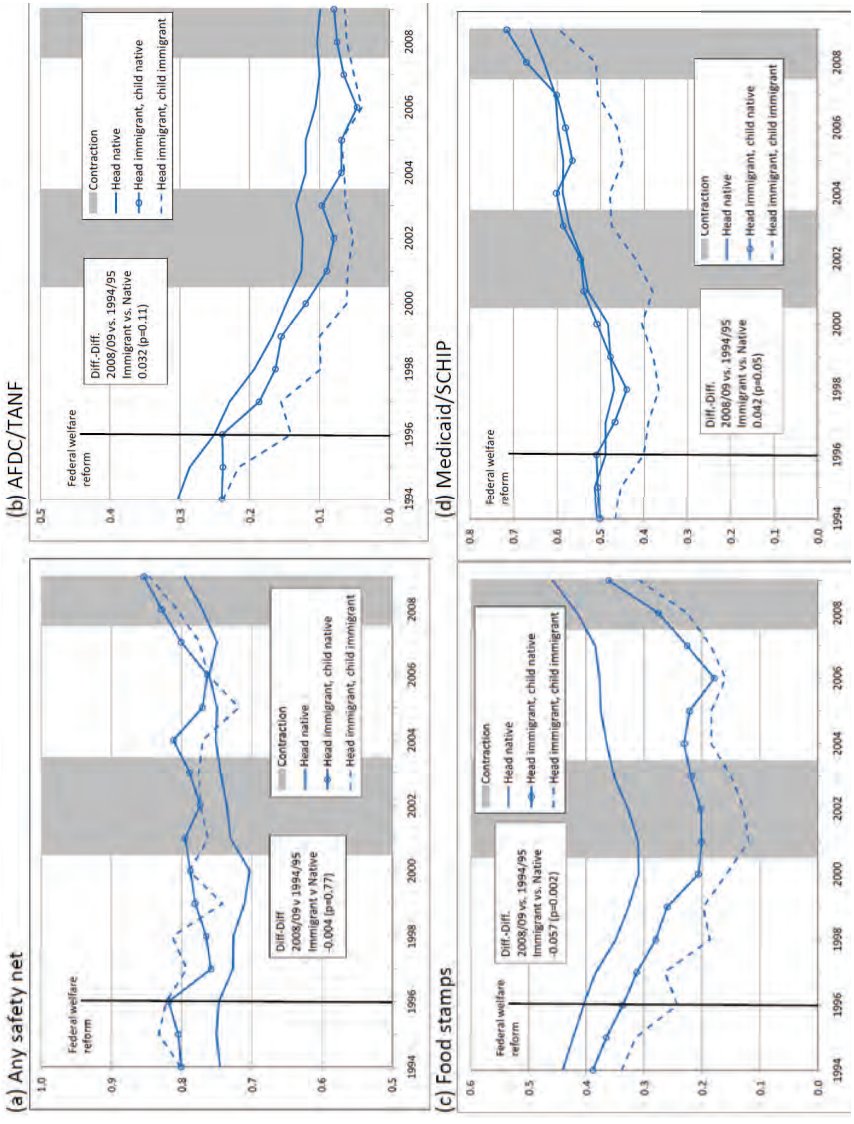


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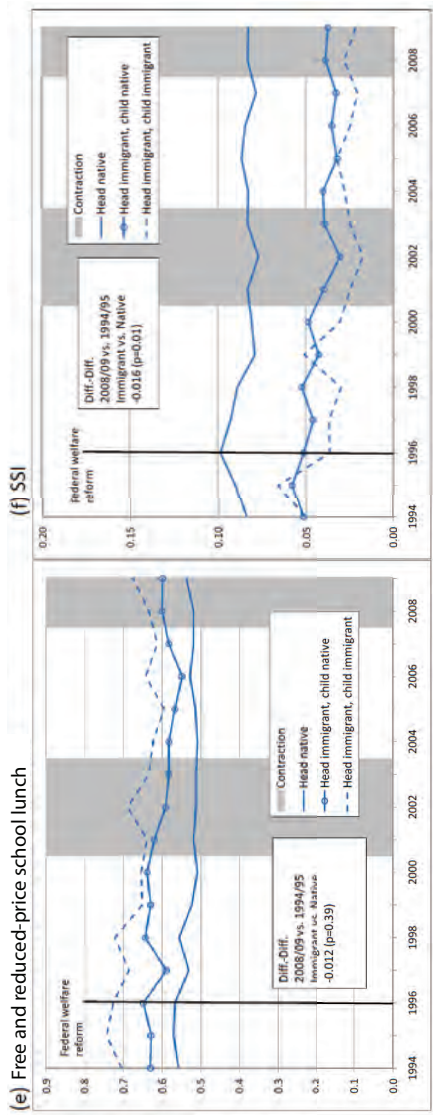


FIGURE 3-11 Safety net participation as fraction of households (Y axis) with incomes less than 200 percent of the federal poverty level.

NOTE: Calculations are from the 1995–2010 Annual Social and Economic Supplement data of the Current Population Survey. Sample included children under 18 with household income below 200% of poverty level. Program participation was measured at the household level. Any safety net program participation means someone in the household (1) participated in public assistance, food stamps (SNAP), Medicaid, free or reduced-price school lunch, Supplemental Security Income, or public housing or (2) received a rental subsidy from the government or energy assistance. Figures are weighted. Shaded areas refer to annual periods of labor market contraction. See source text for explanation of the weighting applied to the data shown in the graphs and further details of the analytical methodology.

SOURCE: Bitler and Hoynes (2013, Figs. 11.3–11.8, pp. 333–338).

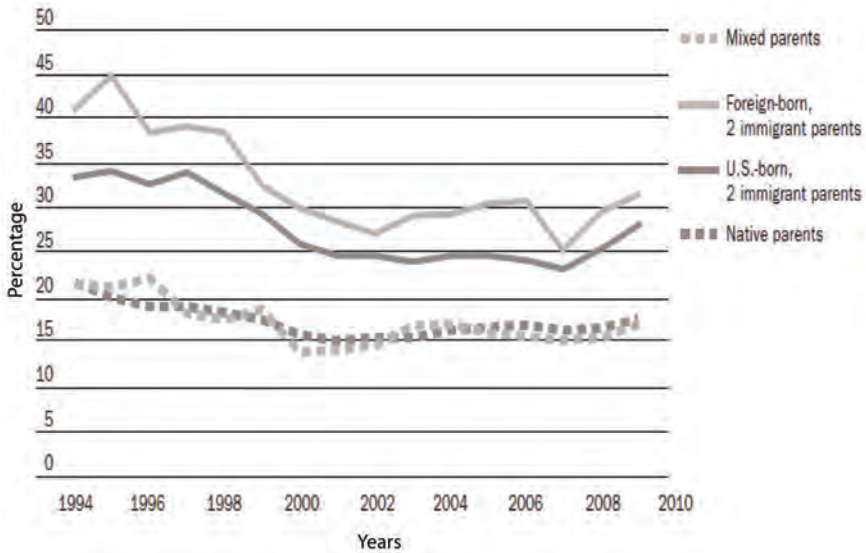


FIGURE 3-12 Trends in poverty rate of children, 1994-2009.
SOURCE: Borjas (2011, Fig. 2, p. 251). The author's calculations are based on data from the 1994-2009 March Current Population Survey administrations. The poverty rate is the percentage of households with incomes below the poverty threshold.

3.5 CONCLUSIONS

This chapter examined how trends in the skills of immigrants—particularly their education and experience—compare to those of the native-born population. The relative skill compositions of the two populations are an important determinant of the economic consequences of immigration, along with the magnitude of immigrant inflows and the share of immigrants likely to increase the productivity of other workers. The chapter also described how employment rates and wages of immigrants have compared with those of the native-born population.

Although the native-born population increased during the period of analysis, the total foreign-born population size expanded much more, resulting in an increase in the share of the foreign-born in the total population. And, aside from children younger than age 15, the foreign-born population changed from being a relatively old population in 1970 to being a relatively young population, with a peak concentration of persons ages 25-34 in 2012.

Education levels of immigrant arrival cohorts have been steadily rising over time, a trend observed for both men and women. That said, as explored

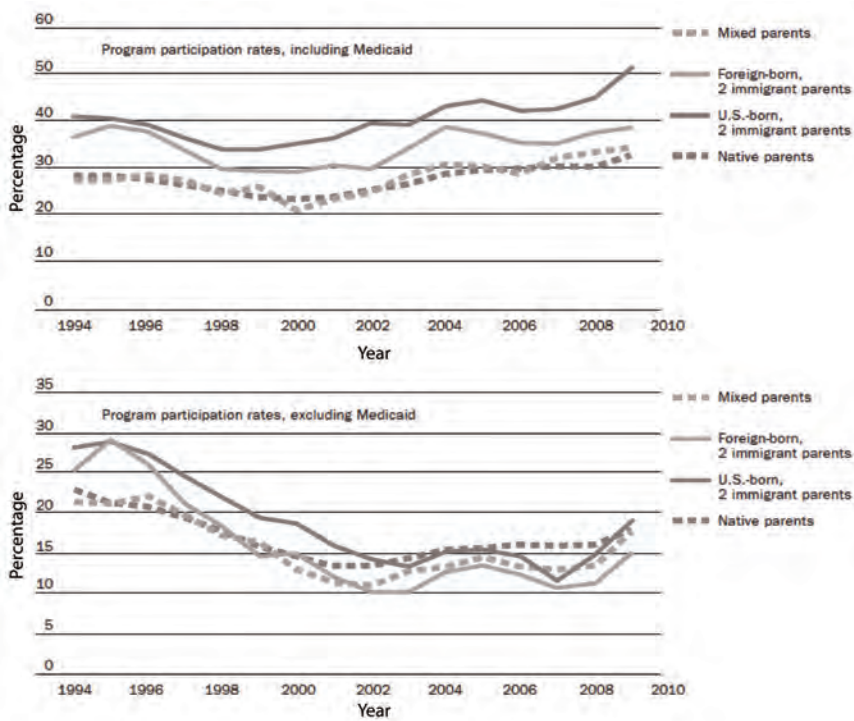


FIGURE 3-13 Trends in program participation of children, 1994-2009.
SOURCE: Borjas (2011, Fig. 3, p. 253). Author's calculations are based on data from 1994-2009 March CPS administrations. The program participation rate gives the fraction of children living in households that received cash assistance, Supplemental Nutrition Assistance Program (SNAP) benefits, or Medicaid (in the top panel), or cash assistance and SNAP benefits (in the bottom panel).

in Chapter 5, the impact of immigration on the wages and employment of the native-born population is most directly related to *relative* education levels. While there is a consistent gap in educational attainment between the native-born and the foreign-born, with the former enjoying the advantage, there is a trend toward convergence between the two groups in the average education levels for adults ages 25-34—a category in which about half of recent immigrants in each year fall. In 1970, the mean education for persons ages 25-34 was 12.1 (years of education) for the native-born and 11.6 for a recently arrived immigrant; by 1980, the gap had expanded from 0.5 years to 1.8 years, with mean years of education of 13.1 and 11.9, respectively. By 2012, the gap narrowed substantially to 0.3 years,

with a mean of 13.7 years of education for the native-born and 13.4 for the recently arrived foreign-born. Across all age groups combined, however, no such convergence in educational attainment is observed.

Over this period, the educational attainment of the foreign-born population has consistently been more varied than that of the native-born population. This contrast is particularly pronounced for young adults. In 1970, 41 percent of the foreign-born ages 30-34 had not completed high school, compared to 30 percent of the native-born. In the same age group, also in 1970, the foreign-born population had 11 percent with more than college education, compared to the native-born at 6 percent. In 2012, again restricting to individuals ages 30-34, 29 percent of the foreign-born had less than high school education, compared to 8 percent of the native-born. At the high end, 13 percent of the foreign-born, versus 11 percent of the native-born, had more than college education.

Occupational sorting has also changed in recent decades. While foreign-born workers are overrepresented in high-level professional groups that require the most education (such as scientists, engineers, and architects), they are underrepresented among other professionals, managers, and sales personnel. It is interesting to note that growth in the share of foreign-born workers in these occupations has been slower than growth in the share of foreign-born workers in the general labor force, resulting in a relative decline of foreign-born workers in these relatively high-status occupations.

Employment outcomes provide one indication of the pace and extent to which immigrants integrate into the United States. Shortly after arrival in the United States, immigrant men—especially recent cohorts—experience a disadvantage relative to native-born men in terms of the probability of being employed. However, for cohorts of immigrants arriving since the 1970s, after this initial period of adjustment in which their probability of employment is lower, they became slightly more likely to be employed than their native-born peers. The higher employment rate among immigrant men is mainly represented in the population with education of a high school degree or less, and the difference in employment ratios between immigrant and native-born men is due mainly to differences in labor force participation and not to unemployment. Immigrant women display lower employment rates than immigrant men and, typically, lower rates than native-born women. However, their probability of being employed relative to native-born women also rises appreciably after 10 years of U.S. residence, as immigrant women are exposed to U.S. labor market conditions and social norms and as some experience changes in their visa status, which improves their chances of finding employment.

On the wage front, as their time spent in the U.S. workforce extends, immigrants tend to catch up with their native-born peers. Male immigrants who arrived between 1965 and 1969 experienced rapid growth in their

relative wages, which allowed them to close the gap with native-born peers. This indication of economic integration has shown signs of slowing in more recent decades. The relative wage profile has flattened somewhat across recent arrival cohorts, indicating a slowing rate of wage convergence. This overall conclusion holds after controlling for immigrants' educational attainment, although the relative wage picture for immigrants is considerably more favorable when education is controlled for. Compared to male immigrants, female immigrants start off with a less dramatic wage disadvantage, but they experience slower growth in their wages relevant to native-born peers than do male immigrants.

Regarding poverty and program participation, a key change since *The New Americans* report (National Research Council, 1997) was welfare reform that restricted program access to some immigrants. One implication of that legislation for immigrants has been a lowering of participation rates in means-tested programs, which impacts their capacity to navigate through challenging economic times. The Great Recession of 2007-2009 and subsequent slow recovery, combined with the changing sectoral composition of the economy, has created difficult economic conditions for immigrants and the native-born alike, especially those at the low-skilled end of the labor spectrum.

3.6 TECHNICAL ANNEX OF TABULATIONS
AND REGRESSION RESULTS

TABLE 3-16 Educational Attainment of Male Immigrants, Ages 25 and Older, by Decennial Census Year 1970-2000, and in 2012

	Immigrants in 1970 (%)	Immigrants in 1980 (%)	Immigrants in 1990 (%)	Immigrants in 2000 (%)	Immigrants in 2012 (%)
Less than High School	47	37	37	36	27
High School Diploma / GED	15	16	17	17	20
Some College	11	18	17	14	14
Bachelor's Degree	9	12	15	17	21
Graduate Education	19	18	15	16	18
N (all attainment levels)	426,700	787,420	1,258,276	2,022,420	1,853,249

SOURCE: Analyses of 1970-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-17 Educational Attainment of Female Immigrants, Ages 25 and Older, by Decennial Census Year 1970-2000, and in 2012

	Immigrants in 1970 (%)	Immigrants in 1980 (%)	Immigrants in 1990 (%)	Immigrants in 2000 (%)	Immigrants in 2012 (%)
Less than High School	54	44	40	35	25
High School Diploma / GED	23	22	20	19	20
Some College	10	16	17	16	16
Bachelor's Degree	7	10	15	18	24
Graduate Education	6	9	8	12	15
N (all attainment levels)	506,333	812,320	1,267,141	1,972,390	2,057,872

SOURCE: Analyses of 1970-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-18 Share of Foreign-born Male Workers (percentage), Ages 25-64, by Occupational Category, by Decennial Census Year 1970-2000, and in 2012

Occupation	Share of Male Workers in Occupation Who are Foreign Born					Share of All Male Workers with a Bachelor's or Higher Degree in 2012
	1970	1980	1990	2000	2012	
Across All Occupations	4.8	6.2	8.6	11.8	18.7	34.6
Lawyers and judges	2.5	2.2	2.8	3.6	5.2	99.1
Physicians, dentists, and related	11.5	14.2	14.5	18.3	22.6	98.4
Mathematicians	6.7	8.6	9.4	16.5	21.4	96.5
Postsecondary teachers	11.0	11.4	15.9	17.8	26.2	95.6
Preschool and elementary teachers	3.0	2.9	4.0	5.5	6.4	95.5
Physical scientists	10.0	10.5	12.1	21.8	28.7	95.0
Life scientists	9.5	7.2	10.4	19.5	28.9	93.5
Architects	7.5	9.4	11.2	11.5	18.3	89.1
Social and recreation workers	4.0	4.3	5.6	8.2	10.4	88.5
Librarians, archivists, and curators	6.5	8.2	7.5	8.0	8.4	86.6
Accountants and financial analysts	4.1	5.9	7.8	9.4	12.7	81.0
Engineers	6.8	9.4	11.7	15.2	19.5	79.8
Secondary, vocational, and adult ed. Teachers	2.8	3.5	5.3	5.8	8.2	75.7
Religious workers	5.3	4.9	5.8	8.1	11.9	75.2
Administrators and public officers	2.2	3.0	4.1	6.3	7.8	72.9
Nurses, dietitians, therapists	4.5	6.1	8.0	12.3	18.7	68.0

continued

TABLE 3-18 Continued

	Share of Male Workers in Occupation Who are Foreign Born					Share of All Male Workers with a Bachelor's or Higher Degree in 2012
	1970	1980	1990	2000	2012	
Social scientists	6.6	7.3	7.2	10.4	13.9	67.2
Computer specialists	4.4	6.6	10.0	17.2	23.5	66.5
Writers, artists, and media workers	7.0	7.2	8.0	9.8	12.4	60.9
Managers and proprietors	4.6	5.8	7.6	9.7	13.7	54.3
Sales workers, retail	5.2	5.3	8.8	11.4	17.1	50.2
Secretaries	5.5	7.1	8.3	9.8	14.5	37.8
All other technicians	4.7	5.5	7.8	8.0	10.8	35.1
Bookkeepers	6.0	9.1	12.3	14.0	16.6	33.5
Health service workers	4.1	8.5	11.9	16.7	24.0	32.6
Sales workers	3.4	4.5	6.6	7.7	10.9	32.3
Clerical workers	3.7	5.1	7.6	10.4	14.9	26.9
Protective service workers	1.7	2.6	3.3	4.9	7.1	25.7
Health technicians	8.6	11.8	12.5	12.4	16.3	19.0
Personal service workers and barbers	10.5	12.7	15.7	19.0	28.9	17.6
Farmers and farm laborers, incl. forestry and fishing	2.7	3.9	7.5	14.5	26.9	13.4
Cleaning service and food service workers	10.5	14.2	20.2	25.2	35.5	9.1
Craftsmen	5.1	6.7	9.2	13.0	20.4	8.9
Electricians	3.6	3.8	5.3	7.0	12.0	7.9
Construction workers	4.6	5.6	8.4	12.0	25.5	7.2

Operators, except textile, metalworking, and transportation	5.6	7.1	9.3	12.4	19.6	7.2
Mechanical workers	4.0	5.1	6.6	9.0	14.5	7.1
Textile machine operators	13.3	18.1	23.6	32.0	49.0	6.8
Carpenters	7.3	7.5	8.6	12.6	28.1	6.3
Metalworking and transportation operators	3.3	4.6	7.0	10.6	20.1	5.9
Laborers, except farm	5.0	7.8	11.8	18.6	32.8	5.7

NOTE: “Workers” is defined as those who are employed and work at least 50 weeks a year in a nonmilitary occupation. Occupational categories are the Tier 1 categories in Section 3.7, Technical Annex on Occupational Categories.
SOURCE: Analyses of 1970-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-19 Share of Foreign-born Female Workers (percentage), Ages 25-64, by Occupational Category, by Decennial Census Year 1970-2000, and in 2012

	Share of Female Workers in Occupation Who Are Foreign Born					Share of All Female Workers with a Bachelor's or Higher Degree in 2012
	1970	1980	1990	2000	2012	
Across all occupations	5.4	6.7	8.0	10.2	15.8	36.5
Occupations						
Lawyers and judges	5.0	3.3	4.2	5.5	8.2	97.5
Physical scientists	18.0	16.2	16.6	27.9	30.8	97.2
Life scientists	9.4	13.4	12.7	24.1	32.2	96.8
Architects	21.1	14.0	15.6	18.0	21.4	94.9
Postsecondary teachers	8.8	8.2	10.8	11.8	18.9	94.3
Physicians, dentists, and related	29.4	28.4	20.3	22.5	23.1	92.6
Social and recreation workers	4.1	3.8	4.6	6.5	8.6	88.1
Mathematicians	6.6	7.4	11.8	15.4	23.3	87.7
Preschool and elementary teachers	2.1	3.1	4.1	5.4	7.2	87.6
Librarians, archivists, and curators	6.1	5.7	6.2	6.6	6.7	86.9
Engineers	6.5	9.1	10.6	18.1	25.3	85.4
Secondary, vocational, and adult ed teachers	3.6	4.0	4.7	5.7	8.5	81.2
Administrators and public officers	2.7	3.2	4.1	5.4	7.8	72.0
Social scientists	5.3	6.8	6.2	9.2	10.9	70.6
Writers, artists, and media workers	7.0	6.4	6.4	8.2	11.1	68.2
Religious workers	5.2	4.7	5.4	6.2	8.3	66.1
Computer specialists	4.7	7.0	9.9	14.5	21.8	64.7
Nurses, dieticians, therapists	5.5	7.3	8.0	10.1	13.2	60.5
Accountants and financial analysts	4.8	6.8	7.7	10.3	14.7	59.9

Managers and proprietors	5.0	5.3	5.9	7.7	11.0	52.3
Sales workers, retail	5.3	6.3	8.8	10.8	16.8	41.4
All other technicians	4.7	6.6	7.4	8.6	12.5	38.6
Health service workers	5.1	6.7	9.4	12.7	19.1	27.2
Protective service workers	3.5	3.9	3.7	5.3	7.1	27.2
Sales workers	4.6	6.0	6.8	8.4	12.0	22.8
Clerical workers	4.1	5.2	6.1	7.3	10.9	20.1
Secretaries	4.1	4.2	4.8	5.5	7.5	18.6
Construction workers	5.2	5.7	7.2	9.3	16.0	18.1
Mechanical workers	3.7	4.7	5.9	7.9	13.3	17.7
Farmers and farm laborers, including forestry and fishing	3.8	4.6	8.4	17.2	32.6	16.4
Bookkeepers	4.3	4.6	5.9	7.0	9.7	15.3
Electricians	3.1	5.9	7.9	10.5	11.7	13.8
Personal service workers and barbers	6.5	9.9	13.8	14.6	26.5	12.0
Craftsmen	5.9	9.7	13.1	17.7	27.0	11.0
Carpenters	6.9	7.2	8.7	11.5	20.3	10.8
Health technicians	8.8	7.8	6.9	8.0	10.8	7.9
Laborers, except farm	5.0	8.9	9.7	16.1	28.7	7.5
Cleaning service and food service workers	6.3	10.0	13.6	20.4	35.6	7.4
Operators, except textile, metalworking, and transportation	6.7	10.3	13.4	17.7	30.7	7.1
Metalworking and transportation operators	5.6	5.9	5.7	6.3	11.7	6.2
Textile machine operators	11.0	16.3	20.4	30.5	50.5	6.1

NOTE: "Workers" is defined as those who are employed and work at least 50 weeks a year in a nonmilitary occupation. Occupational categories are the Tier 1 categories in Section 3.7, Technical Annex on Occupational Categories.

SOURCE: Analyses of 1970-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-20 Difference in Share of Weeks Worked for Immigrant Cohorts, by Decennial Census Year 1970-2000, and in 2012, Men, Ages 25-64, Controlling for Age (cubic) Only

Variables	Census						ACS				
	1970		1980		1990		2000		2012		
	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE	
2010-2012									-0.158	0.001	
2005-2009									0.011	0.001	
2000-2004									0.056	0.001	
1995-1999								-0.160	0.001	0.057	0.001
1990-1994								-0.047	0.001	0.044	0.000
1985-1989					-0.185	0.001		-0.033	0.001	0.042	0.000
1980-1984					-0.048	0.001		-0.032	0.000	0.042	0.000
1975-1979			-0.183	0.001	-0.019	0.001		-0.019	0.000	0.046	0.000
1970-1974			-0.025	0.001	-0.016	0.000		-0.011	0.000	0.034	0.001
1965-1969	-0.107	0.001	-0.010	0.000	0.005	0.000		0.012	0.001	0.022	0.001
1960-1964	0.000	0.001	0.005	0.000	0.021	0.000		0.018	0.002	0.033	0.001
1950-1959	0.014	0.000	0.019	0.000	0.034	0.001		0.024	0.002	0.038	0.002

SOURCE: Analyses of 1970-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-21 Difference in Share of Weeks Worked for Immigrant Cohorts, by Decennial Census Year 1970-2000, and in 2012, Men, Ages 25-64, Controlling for Age (cubic) and Years of Education

Variables	Census						ACS			
	1970		1980		1990		2000		2012	
	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE
2010-2012									-0.158	0.001
2005-2009									0.040	0.008
2000-2004									0.098	0.012
1995-1999							-0.135	0.003	0.098	0.012
1990-1994							-0.011	0.006	0.086	0.012
1985-1989					-0.156	0.003	0.013	0.008	0.087	0.013
1980-1984					-0.008	0.005	0.012	0.008	0.085	0.013
1975-1979			-0.164	0.001	0.023	0.006	0.019	0.007	0.083	0.011
1970-1974			0.004	0.002	0.026	0.006	0.027	0.008	0.077	0.014
1965-1969	-0.101	0.000	0.013	0.002	0.030	0.004	0.037	0.006	0.050	0.010
1960-1964	0.008	0.000	0.017	0.001	0.035	0.002	0.030	0.004	0.039	0.003
1950-1959	0.023	0.000	0.026	0.001	0.043	0.003	0.030	0.004	0.032	0.002

SOURCE: Analyses of 1970-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-22 Difference in Share of Weeks Worked for Immigrant Cohorts, by Decennial Census Year 1970-2000, and in 2012, Women, Ages 25-64, Controlling for Age (cubic) Only

Variables	Census						ACS					
	1970		1980		1990		2000		2012			
	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE		
2010-2012									-0.369	0.002		
2005-2009									-0.208	0.002		
2000-2004									-0.131	0.001		
1995-1999								-0.295	0.002	-0.097	0.001	
1990-1994								-0.173	0.001	-0.063	0.000	
1985-1989							-0.255	0.001	-0.131	0.001	-0.031	0.000
1980-1984							-0.111	0.001	-0.086	0.000	-0.010	0.001
1975-1979					-0.163	0.001	-0.074	0.000	-0.063	0.000	-0.016	0.002
1970-1974					-0.033	0.001	-0.053	0.000	-0.049	0.001	-0.022	0.002
1965-1969	-0.014	0.000			-0.001	0.000	-0.023	0.000	-0.030	0.001	-0.005	0.002
1960-1964	0.004	0.000			-0.009	0.000	-0.014	0.000	-0.025	0.002	-0.002	0.002
1950-1959	-0.011	0.000			-0.011	0.000	-0.016	0.001	-0.016	0.002	0.015	0.002

SOURCE: Analyses of 1970-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-23 Difference in Share of Weeks Worked for Immigrant Cohorts, by Decennial Census Year 1970-2000, and in 2012, Women, Ages 25-64, Controlling for Age (cubic) and Years of Education

Variables	Census						ACS			
	1970		1980		1990		2000		2012	
	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE
2010-2012									-0.353	0.001
2005-2009									-0.170	0.003
2000-2004									-0.075	0.006
1995-1999								-0.256	0.002	0.007
1990-1994								-0.117	0.004	0.008
1985-1989					-0.200	0.005		-0.070	0.005	0.008
1980-1984					-0.042	0.007		-0.030	0.006	0.008
1975-1979			-0.118	0.002	-0.006	0.007		-0.015	0.005	0.008
1970-1974			0.017	0.003	0.007	0.007		-0.005	0.006	0.009
1965-1969	0.014	0.000	0.039	0.003	0.017	0.005		-0.001	0.005	0.008
1960-1964	0.027	0.000	0.017	0.002	0.011	0.004		-0.006	0.005	0.005
1950-1959	0.009	0.001	0.007	0.002	0.003	0.004		-0.004	0.005	0.005

SOURCE: Analyses of 1970-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-24 Age-adjusted Relative Weekly Earnings of Immigrant Cohorts, by Decennial Census Year 1970-2000, and in 2012, Men, Ages 25-64, Controlling for Age (cubic) Only

Variables	Census						ACS	
	1970			1980			2012	
	Coeff	Robust SE		Coeff	Robust SE		Coeff	Robust SE
2010-2012							-.1971	.0041
2005-2009							-.3106	.0044
2000-2004							-.3388	.0027
1995-1999						-0.273	-.2692	.0010
1990-1994						-0.269	-.2662	.0035
1985-1989					0.001	-0.269	-.2521	.0056
1980-1984					0.001	-0.236	-.2094	.0060
1975-1979					0.001	-0.176	-.1357	.0047
1970-1974				-0.314	0.001	-0.124	-.0054	.0045
1965-1969	-0.235	0.001		-0.223	0.001	-0.02	.1760	.0103
1960-1964	-0.058	0.001		-0.122	0.001	0.046	1.1337	.0181
1950-1959	0.037	0.001		-0.041	0.001	0.1		
				0.032	0.001	0.147		

SOURCE: Analyses of 1970-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-25 Age- and Education-adjusted Relative Weekly Earnings of Immigrant Cohorts, by Decennial Census Year 1970-2000, and in 2012, Men, Ages 25-64, Controlling for Age (cubic) and Years of Education

Variables	Census						ACS			
	1970		1980		1990		2000		2012	
	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE
2010-2012									-.064	.017
2005-2009									-.136	.028
2000-2004									-.130	.029
1995-1999							-.149	.021	-.074	.023
1990-1994							-.099	.025	-.075	.018
1985-1989					-.176	.015	-.056	.025	-.026	.019
1980-1984					-.098	.017	-.039	.020	-.003	.014
1975-1979			-.211	.0041	.011	.016	.039	.019	.069	.012
1970-1974			-.087	.0047	.075	.014	.088	.017	.120	.004
1965-1969	-.0172	.0025	-.030	.002	.099	.006	.133	.008	.111	.017
1960-1964	0.003	.0023	0.015	.0004	.133	.002	.133	.004	.987	.025
1950-1959	0.01	.0017	0.077	.0018	.186	.001	.096	.018		

SOURCE: Analyses of 1970-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-26 Age-adjusted Relative Weekly Earnings of Immigrant Cohorts, by Decennial Census Year 1970-2000, and in 2012, Women, Ages 25-64, Controlling for Age (cubic) Only

Variables	Census						ACS			
	1970		1980		1990		2000		2012	
	Robust		Robust		Robust		Robust		Robust	
	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE	Coeff	SE
2010-2012									-.2782	.0033
2005-2009									-.3143	.0031
2000-2004									-.2989	.0021
1995-1999							-0.216	0.002	-.2395	.0010
1990-1994							-0.165	0.002	-.2027	.0027
1985-1989					-0.184	0.001	-0.138	0.001	-.1684	.0048
1980-1984					-0.093	0.000	-0.100	0.002	-.0975	.0054
1975-1979			-0.082	0.000	-0.002	0.000	-0.053	0.004	-.0312	.0040
1970-1974			0.026	0.001	0.042	0.001	-0.026	0.005	.0615	.0041
1965-1969	-0.021	0.001	0.068	0.001	0.083	0.002	0.023	0.004	.1329	.0104
1960-1964	0.037	0.001	0.036	0.000	0.061	0.002	0.043	0.003	.1706	.0189
1950-1959	0.051	0.000	0.025	0.001	0.013	0.002	0.173	0.008		

SOURCE: Analyses of 1970-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-27 Age- and Education-adjusted Relative Weekly Earnings of Immigrant Cohorts, by Decennial Census Year 1970-2000, and in 2012, Women, Ages 25-64, Controlling for Age (cubic) and Years of Education

Variables	Census						ACS	
	1970			1980			2012	
	Coeff	Robust SE		Coeff	Robust SE		Coeff	Robust SE
2010-2012							-.230	.009
2005-2009							-.154	.019
2000-2004							-.114	.020
1995-1999						-.075	-.056	.018
1990-1994						.002	-.010	.016
1985-1989					.020	.060	.027	.014
1980-1984					.024	.0091	.078	.010
1975-1979					.008	.201	.142	.010
1970-1974					.009	.224	.160	.004
1965-1969	.111	.007			.008	.202	.073	.010
1960-1964	.142	.006			.005	.143	-.017	.019
1950-1959	.144	.005			.004	.101		
						.123		.013

SOURCE: Analyses of 1970-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-28 Age-adjusted Probabilities of Speaking English Very Well, Immigrant Cohorts, by Decennial Census Year 1980-2000, and in 2012, Men, Ages 25-64, Controlling for Age (cubic) Only

Variables	Census				ACS	
	1980		1990		2012	
	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE
2010-2012 Arrivals					.3676	.0202
2005-2009 Arrivals					.3098	.0211
2000-2004 Arrivals					.3144	.0163
1995-1999 Arrivals				0.332	.3588	.0098
1990-1994 Arrivals				0.346	.3756	.0048
1985-1989 Arrivals			0.327	0.005	.4008	.0062
1980-1984 Arrivals			0.369	0.005	.4489	.0110
1975-1979 Arrivals	0.309	0.005	0.428	0.003	.4947	.0164
1970-1974 Arrivals	0.364	0.004	0.480	0.003	.5999	.0279
1965-1969 Arrivals	0.432	0.004	0.561	0.005	.7173	.0439
1960-1964 Arrivals	0.532	0.008	0.654	0.007	.8257	.0625
1950-1959 Arrivals	0.672	0.017	0.754	0.013		

SOURCE: Analyses of 1980-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-29 Age-adjusted Probabilities of Speaking English Very Well, Immigrant Cohorts, by Decennial Census Year 1980-2000, and in 2012, Women, Ages 25-64, Controlling for Age (cubic) Only

Variables	Census				ACS	
	1980		1990		2012	
	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE
2010-2012 Arrivals					.3300	.0154
2005-2009 Arrivals					.2907	.0143
2000-2004 Arrivals					.3080	.0101
1995-1999 Arrivals				0.302	.3540	.0060
1990-1994 Arrivals				0.333	.3733	.0038
1985-1989 Arrivals			0.322	0.008	.4179	.0061
1980-1984 Arrivals			0.360	0.007	.4895	.0108
1975-1979 Arrivals	0.281	0.009	0.429	0.004	.5339	.0151
1970-1974 Arrivals	0.341	0.007	0.508	0.004	.6084	.0219
1965-1969 Arrivals	0.424	0.006	0.596	0.006	.7335	.0315
1960-1964 Arrivals	0.543	0.009	0.714	0.010	.7948	.0435
1950-1959 Arrivals	0.716	0.019	0.829	0.020		

SOURCE: Analyses of 1980-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-30 Age-adjusted Probabilities of Speaking English Well, Immigrant Cohorts, by Decennial Census Year 1980-2000, and in 2012, Men, Ages 25-64, Controlling for Age (cubic) Only

Variables	Census				ACS	
	1980		1990		2012	
	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE
2010-2012 Arrivals					0.604	0.018
2005-2009 Arrivals					0.533	0.019
2000-2004 Arrivals					0.572	0.015
1995-1999 Arrivals				0.01	0.643	0.009
1990-1994 Arrivals				0.009	0.69	0.003
1985-1989 Arrivals			0.562	0.006	0.717	0.005
1980-1984 Arrivals			0.663	0.005	0.777	0.009
1975-1979 Arrivals	0.578	0.009	0.736	0.003	0.805	0.011
1970-1974 Arrivals	0.666	0.008	0.779	0.002	0.847	0.018
1965-1969 Arrivals	0.747	0.003	0.866	0.006	0.857	0.028
1960-1964 Arrivals	0.854	0.006	0.944	0.008	0.816	0.041
1950-1959 Arrivals	0.993	0.013	0.986	0.01	0.954	0.023

SOURCE: Analyses of 1980-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

TABLE 3-31 Age-adjusted Probabilities of Speaking English Well, Immigrant Cohorts, by Decennial Census Year 1980-2000, and in 2012, Women, Ages 25-64, Controlling for Age (cubic) Only

Variables	Census				ACS			
	1980		1990		2000		2012	
	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE	Coeff	Robust SE
2010-2012 Arrivals							0.573	0.02
2005-2009 Arrivals							0.529	0.019
2000-2004 Arrivals							0.572	0.013
1995-1999 Arrivals					0.525	0.015	0.633	0.006
1990-1994 Arrivals					0.607	0.012	0.664	0.004
1985-1989 Arrivals			0.549	0.01	0.647	0.006	0.714	0.008
1980-1984 Arrivals			0.633	0.008	0.717	0.004	0.773	0.012
1975-1979 Arrivals	0.533	0.011	0.725	0.004	0.788	0.007	0.809	0.016
1970-1974 Arrivals	0.613	0.009	0.794	0.002	0.859	0.011	0.851	0.02
1965-1969 Arrivals	0.707	0.006	0.879	0.004	0.919	0.014	0.874	0.027
1960-1964 Arrivals	0.845	0.007	0.972	0.008	0.962	0.017	0.796	0.035
1950-1959 Arrivals	1	0.014	1	0.01	0.984	0.021		

SOURCE: Analyses of 1980-2000 Decennial Census data and 2010-2012 American Community Survey data, accessed through the Integrated Public Use Microdata Series.

3.7 TECHNICAL ANNEX ON OCCUPATIONAL CATEGORIES

The occupational analysis in Chapter 3 tracks changes in concentration of native-born and foreign-born individuals in different occupational categories. Because the occupational structure of a labor market changes over time, an occupational coding system that takes into account such changes is required. Xie and Killewald (2012) and Xie et al. (2016) created such a coding system, which is useful for tracking occupational changes over time. This system, based on classification of 41 occupational categories—and reproduced below—was created to meet two conflicting objectives to the extent possible: (1) reduce the number of occupational categories, and (2) group detailed occupations only when socioeconomic status and work content are sufficiently similar across these occupations. With the second purpose in mind, the second-tier occupational categories are 8 major occupational categories that are generated by collapsing the 41 occupational categories. This two-tier occupational coding system is the basis for Tables 3-18 and 3-19.

First-Tier Occupational Categories

Lawyers and judges: Lawyers; Judges, magistrates, and other judicial workers

Physicians, dentists, and related practitioners: Chiropractors; Dentists; Optometrists; Physicians and surgeons; Podiatrists; Audiologists; Veterinarians; Health diagnosing and treating practitioners, all other

Mathematicians: Actuaries; Mathematicians; Statisticians; Miscellaneous mathematical science occupations; Professors and postsecondary instructors, mathematical (imputed in 2000 and 2007)

Postsecondary teachers: Postsecondary teachers

Preschool and elementary teachers: Preschool and kindergarten teachers; Elementary and middle school teachers

Physical scientists: Astronomers and physicists; Atmospheric and space scientists; Chemists and materials scientists; Environmental scientists and geoscientists; Physical scientists, all other; Professors and postsecondary instructors, physical sciences (imputed in 2000 and 2007)

Life scientists: Agriculture and food scientists; Biological scientists; Conservation scientists and foresters; Medical scientists; Professors and postsecondary instructors, life sciences (imputed in 2000 and 2007)

Architects: Architects, except naval

Social and recreation workers: Counselors; Social workers; Miscellaneous community and social service specialists; Recreation and fitness workers; Residential advisors

Librarians, archivists, and curators: Archivists, curators, and museum technicians; Librarians

Accountants and financial analysts: Financial managers; Cost estimators; Accountants and auditors; Budget analysts; Credit analysts; Financial analysts; Personal financial advisors; Insurance underwriters; Financial examiners; Loan counselors and officers; Tax examiners, collectors, and revenue agents; Tax preparers; Financial specialists, all other

Engineers: Aerospace engineers; Agricultural engineers; Biomedical engineers; Chemical engineers; Civil engineers; Computer hardware engineers; Electrical and electronics engineers; Environmental engineers; Industry engineers, including health and safety; Materials engineers; Mechanical engineers; Mining and geological engineers, including mining safety engineers; Nuclear engineers; Petroleum engineers; Engineers, all other; Sales engineers; Professors and postsecondary instructors, engineering (imputed in 2000 and 2007)

Secondary, vocational, and adult education teachers: Secondary school teachers; Special education teachers; Other teachers and instructors; Other education, training, and library workers

Religious workers: Clergy; Directors, religious activities and education; Religious workers, all other

Administrators and public officers: Legislators; Administrative services managers; Education administrators; Natural sciences managers; Postmasters and mail superintendents; Social and community service managers; Compliance officers, except agriculture, construction, health and safety, and transportation

Nurses, dietitians, therapists: Dietitians and nutritionists; Pharmacists; Physician assistants; Registered nurses; Occupational therapists; Physical therapists; Radiation therapists; Recreational therapists; Respiratory therapists; Speech-language therapists; Therapists, all other; Massage therapists

Social scientists: Economists; Market and survey researchers; Psychologists; Sociologists; Urban and regional planners; Miscellaneous social scientists and related workers

Computer specialists: Computer scientists and systems analysts; Computer programmers; Computer software engineers; Computer support specialists; Database administrators; Network and computer systems administrators; Network systems and data communications analysts; Operations research analysts; Computer

control programmers and operators; Professors and postsecondary instructors, computer science (imputed in 2000 and 2007)

Writers, artists and media workers: Artists and related workers; Designers; Actors; Producers and directors; Athletes, coaches, umpires, and related workers; Dancers and choreographers; Musicians, singers, and related workers; Entertainers and performers, sports and related workers, all other; Announcers; News analysts, reporters and correspondents; Public relations specialists; Editors; Technical writers; Writers and authors; Photographers

Managers and proprietors: Chief executives; General and operations managers; Advertising and promotions managers; Marketing and sales managers; Public relations managers; Computer and information systems managers; Human resources managers; Industrial production managers; Purchasing managers; Transportation, storage, and distribution managers; Farm, ranch, and other agricultural managers; Construction managers; Engineering managers; Food service managers; Funeral directors; Gaming managers; Lodging managers; Medical and health services managers; Property, real estate, and community association managers; Managers, all other; Purchasing agents and buyers, farm products; Wholesale and retail buyers, except farm products; Purchasing agents, except wholesale, retail and farm products; Human resources, training, and labor relations specialists; Management analysts; Other business operations specialists

Sales workers, retail: First-line supervisors/managers of retail sales workers; Cashiers; Counter and rental clerks; Parts salespersons; Retail salespersons; Door-to-door sales workers, news and street vendors, and related workers

Secretaries: Secretaries and administrative assistants

All other technicians: Appraisers and assessors of real estate; Surveyors, cartographers, and photogrammetrists; Marine engineers and naval architects; Drafters; Engineering technicians, except drafters; Surveying and mapping technicians; Agricultural and food science technicians; Biological technicians; Chemical technicians; Geological and petroleum technicians; Nuclear technicians; Other life, physical, and social science technicians; Paralegals and legal assistants; Miscellaneous legal support workers; Library technicians; Miscellaneous media and communication workers; Broadcast and sound engineering technicians and radio operators; Television, video, and motion picture camera operators and editors; Media and communication equipment workers, all other; Animal trainers; Aircraft pilots and flight engineers; Air traffic controllers and airfield operations specialists; Locomotive engineers and operators; Railroad

brake, signal, and switch operators; Railroad conductors and yardmasters; Subway, streetcar, and other rail transportation workers; Ship and boat captains and operators; Ship engineers; Bridge and lock tenders; Transportation inspectors

Bookkeepers: Bookkeeping, accounting, and auditing clerks

Health service workers: Licensed practical and licensed vocational nurses; Nursing, psychiatric, and home health aides; Occupational therapist assistants and aides; Physical therapist assistants and aides; Dental assistants; Medical assistant and other health care support occupations

Sales workers: Agents and business managers of artists, performers, and athletes; First-line supervisors/managers of nonretail sales workers; Advertising sales agents; Insurance sales agents; Securities, commodities, and financial service sales agents; Travel agents; Sales representatives, services, all other; Sales representatives, wholesale and manufacturing; Models, demonstrators, and product promoters; Real estate brokers and sales agents; Telemarketers; Sales and related workers, all other; Reservation and transportation ticket agents and travel clerks

Clerical workers: Claims adjusters, appraisers, examiners, and investigators; Logisticians; Meeting and convention planners; Teacher assistants; First-line supervisors/managers of gaming workers; Gaming service workers; First-line supervisors/managers of office and administrative support workers; Switchboard operators, including answering service; Telephone operators; Communications equipment operators, all other; Bill and account collectors; Billing and posting clerks and machine operators; Gaming cage workers; Payroll and timekeeping clerks; Procurement clerks; Tellers; Brokerage clerks; Correspondence clerks; Court, municipal, and license clerks; Credit authorizers, checkers, and clerks; Customer service representatives; Eligibility interviewers, government programs; File clerks; Hotel, motel, and resort desk clerks; Interviewers, except eligibility and loan; Library assistants, clerical; Loan interviewers and clerks; New accounts clerks; Order clerks; Human resources assistants, except payroll and timekeeping; Receptionists and information clerks; Information and record clerks, all other; Cargo and freight agents; Couriers and messengers; Dispatchers; Meter readers, utilities; Postal service clerks; Postal service mail carriers; Postal service mail sorters, processors, and processing machine operators; Production, planning, and expediting clerks; Shipping, receiving, and traffic clerks; Stock clerks and order fillers; Weighers, measurers, checkers, and samplers, recordkeeping; Computer operators; Data entry keyers; Word processors and typists; Desktop publishers; Insurance claims and

policy processing clerks; Mail clerks and mail machine operators, except postal service; Office clerks, general; Office machine operators, except computer; Proofreaders and copy markers; Statistical assistants; Office and administrative support workers, all other

Protective service workers: First-line supervisors/managers of correctional officers; First-line supervisors/managers of police and detectives; First-line supervisors/managers of fire fighting and prevention workers; Supervisors, protective service workers, all other; Firefighters; Fire inspectors; Bailiffs, correctional officers, and jailers; Detectives and criminal investigators; Parking enforcement workers; Police and sheriff's patrol officers; Transit and railroad police; Animal control workers; Private detectives and investigators; Security guards and gaming surveillance officers; Crossing guards; Lifeguards and other protective service workers

Health technicians: Clinical laboratory technologists and technicians; Dental hygienists; Diagnostic related technologists and technicians; Emergency medical technicians and paramedics; Health diagnosing and treating practitioner support technicians; Medical records and health information technicians; Opticians, dispensing; Miscellaneous health technologists and technicians; Other health care practitioners and technical occupations; Medical, dental, and ophthalmic laboratory technicians

Personal service workers and barbers: First-line supervisors/managers of personal service workers; Ushers, lobby attendants, and ticket takers; Miscellaneous entertainment attendants and related workers; Funeral service workers; Barbers; Hairdressers, hairstylists, and cosmetologists; Miscellaneous personal appearance workers; Baggage porters, bellhops, and concierges; Tour and travel guides; Transportation attendants; Child care workers; Personal and home care aides; Personal care and service workers, all other; Parking lot attendants

Farmers and farm laborers, including forestry and fishing: Farmers and ranchers; Fish and game wardens; First-line supervisors/managers of farming, fishing, and forestry workers; Agricultural inspectors; Animal breeders; Graders and sorters, agricultural products; Miscellaneous agricultural workers; Fishers and related fishing workers; Hunters and trappers; Forest and conservation workers; Logging workers

Cleaning service and food service workers: Chefs and head cooks; First-line supervisors/managers of food preparation and serving workers; Cooks; Food preparation workers; Bartenders; Combined food preparation and serving workers, including fast food; Counter attendants, cafeteria, food concession, and coffee shop; Waiters

and waitresses; Food servers, nonrestaurant; Dining room and cafeteria attendants and bartender helpers; Dishwashers; Hosts and hostesses, restaurant, lounge, and coffee shop; Food preparation and serving related workers, all other; First-line supervisors/managers of housekeeping and janitorial workers; First-line supervisors/managers of landscaping, lawn service, and groundskeeping workers; Janitors and building cleaners; Maids and housekeeping cleaners; Pest control workers

Craftsmen: Boilermakers; Millwrights; First-line supervisors/managers of production and operating workers; Aircraft structure, surfaces, rigging, and systems assemblers; Electrical, electronics, and electromechanical assemblers; Structural metal fabricators and fitters; Bakers; Food batchmakers; Model makers and patternmakers, metal and plastic; Molders and molding machine setters, operators, and tenders, metal and plastic; Tool and die makers; Welding, soldering, and brazing workers; Lay-out workers, metal and plastic; Tool grinders, filers, and sharpeners; Metalworkers and plastic workers, all other; Bookbinders and bindery workers; Fabric and apparel patternmakers; Upholsterers; Furniture finishers; Jewelers and precious stone and metal workers; Photographic process workers and processing machine operators; Semiconductor processors; Etchers and engravers; Molders, shapers, and casters, except metal and plastic; Tire builders

Electricians: Electricians; Electrical power-line installers and repairers; Precision instrument and equipment repairers

Construction workers: First-line supervisors/managers of construction trades and extraction workers; Brickmasons, blockmasons, and stonemasons; Carpet, floor, and tile installers and finishers; Cement masons, concrete finishers, and terrazzo workers; Paving, surfacing, and tamping equipment operators; Pile-driver operators; Drywall installers, ceiling tile installers, and tapers; Glaziers; Insulation workers; Painters, construction and maintenance; Paperhangers; Pipelayers, plumbers, pipefitters, and steamfitters; Plasterers and stucco masons; Reinforcing iron and rebar workers; Roofers; Sheet metal workers; Structural iron and steel workers; Construction and building inspectors; Fence erectors; Hazardous materials removal workers; Septic tank services and sewer pipe cleaners; Miscellaneous construction and related workers; Manufactured building and mobile home installers

Operators, except textile, metalworking and transportation: Motion picture projectionists; Operating engineers and other construction equipment operators; Derrick, rotary drill, and service unit operators, oil, gas, and mining; Earth drillers, except oil and gas;

Explosives workers, ordinance handling experts, and blasters; Mining machine operators; Roof bolters, mining; Other extraction workers; Miscellaneous assemblers and fabricators; Butchers and other meat, poultry, and fish processing workers; Food and tobacco roasting, baking, and drying machine operators and tenders; Food cooking machine operators and tenders; Job printers; Prepress technicians and workers; Printing machine operators; Extruding and forming machine setters, operators, and tenders, synthetic and glass fibers; Sawing machine setters, operators, and tenders, wood; Power plant operators, distributors, and dispatchers; Stationary engineers and boiler operators; Water and liquid waste treatment plant and system operators; Miscellaneous plant and system operators; Chemical processing machine setters, operators, and tenders; Crushing, grinding, polishing, mixing, and blending workers; Cutting workers; Furnace, kiln, oven, drier, and kettle operators and tenders; Inspectors, testers, sorters, samplers, and weighers; Packaging and filling machine operators and tenders; Painting workers; Cementing and gluing machine operators and tenders; Cooling and freezing equipment operators and tenders; Paper goods machine setters, operators, and tenders; Production workers, all others; Conveyor operators and tenders; Crane and tower operators; Dredge, excavating, and loading machine operators; Hoist and winch operators

Mechanical workers: Elevator installers and repairers; First-line supervisors/managers of mechanics, installers, and repairers; Computer, automated teller, and office machine repairers; Radio and telecommunications equipment installers and repairers; Avionics technicians; Electric motor, power tool, and related repairers; Electrical and electronics installers and repairers, transportation equipment; Electrical and electronics repairers, industrial and utility; Electronic equipment installers and repairers, motor vehicles; Electronic home entertainment equipment installers and repairers; Security and fire alarm systems installers; Aircraft mechanics and service technicians; Automotive body and related repairers; Automotive glass installers and repairers; Automotive service technicians and mechanics; Bus and truck mechanics and diesel engine specialists; Heavy vehicle and mobile equipment service technicians and mechanics; Small engine mechanics; Miscellaneous vehicle and mobile equipment mechanics, installers, and repairers; Control and valve installers and repairers; Heating, air conditioning, and refrigeration mechanics and installers; Home appliance repairers; Industrial and refractory machinery mechanics; Maintenance and repair workers, general; Maintenance workers, machinery;

Telecommunications line installers and repairers; Coin, vending, and amusement machine services and repairers; Locksmiths and safe repairers; Riggers; Signal and track switch repairers; Engine and other machine assemblers

Textile machine operators: Laundry and dry-cleaning workers; Pressers, textile, garment, and related materials; Sewing machine operators; Shoe and leather workers and repairers; Shoe machine operators and tenders; Tailors, dressmakers, and sewers; Textile bleaching and dyeing machine operators and tenders; Textile cutting machine setters, operators, and tenders; Textile knitting and weaving machine setters, operators, and tenders; Textile winding, twisting, and drawing out machine setters, operators, and tenders; Textile, apparel, and furnishings workers, all other

Carpenters: Carpenters; Cabinetmakers and bench carpenters; Model makers and patternmakers, wood; Woodworking machine setters, operators, and tenders, except sawing; Woodworkers, all other

Metalworking and transportation operators: Highway maintenance workers; Rail-track laying and maintenance equipment operators; Commercial drivers; Extruding and drawing machine setters, operators, and tenders, metal and plastic; Forging machine setters, operators, and tenders, metal and plastic; Rolling machine setters, operators, and tenders, metal and plastic; Cutting, punching, and press machine setters, operators, and tenders, metal and plastic; Drilling and boring machine tool setters, operators, and tenders, metal and plastic; Grinding, lapping, polishing, and buffing machine tool setters, operators, and tenders, metal and plastic; Lathe and turning machine tool setters, operators, and tenders, metal and plastic; Milling and planing machine setters, operators, and tenders, metal and plastic; Machinists; Metal furnace and kiln operators and tenders; Multiple machine tool setters, operators, and tenders, metal and plastic; Heat treating equipment setters, operators, and tenders, metal and plastic; Plating and coating machine setters, operators, and tenders, metal and plastic; Extruding, forming, pressing, and compacting machine setters, operators, and tenders; Cleaning, washing, and metal pickling equipment operators and tenders; Supervisors, transportation and material moving workers; Ambulance drivers and attendants, except emergency medical technicians; Bus drivers; Driver/sales workers and truck drivers; Taxi drivers and chauffeurs; Motor vehicle operators, all other; Sailors and marine oilers; Other transportation workers; Industrial truck and tractor operators; Shuttle car operators; Tank car, truck, and ship loaders; Material moving workers, all other

Laborers, except farm: Grounds maintenance workers; Nonfarm animal caretakers; Construction laborers; Helpers, construction trades; Roustabouts, oil and grease; Helpers-extraction workers; Helpers-installation, maintenance, and repair workers; Other installation, maintenance, and repair workers; Helpers-production workers; Service station attendants; Cleaners of vehicle and equipment; Laborers and freight, stock, and material movers, hand; Machine feeders and offbearers; Packers and packagers, hand; Pumping station operators; Refuse and recyclable material collectors

Second-Tier Categories

These eight categories are combinations of the first-tier categories defined above. The second-tier categories are used in Tables 3-1 and 3-2.

High-level professionals: Life scientists; Physical scientists; Social scientists; Mathematicians; Engineers; Architects; Physicians, dentists, and related; Postsecondary teachers; Lawyers and judges

Professionals: Nurses, dietitians, therapists; Preschool and elementary teachers; Secondary, vocational, and adult education teachers; Health technicians; All other technicians; Computer specialists; Writers, artists, and media workers; Librarians, archivists, and curators; Social and recreation workers; Religious workers; Accountants and financial analysts

Managers and Administrators: Administrators and public officers; Managers and proprietors

Sale workers and clerks: Sales workers, retail; Sales workers; Clerical workers; Bookkeepers; Secretaries

Skilled workers: Mechanical workers; Carpenters; Electricians; Construction workers; Craftsmen

Unskilled workers: Textile machine operators; Metal working and transportation operators; Operators, except textile, metalworking, and transportation; Laborers, except farm

Farmers and farm laborers: Farmers and farm laborers, including forestry and fishing

Service workers: Cleaning service workers and food service workers; Health service workers; Personal service workers and barbers; Protective service workers

PART II

ECONOMIC IMPACTS

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4

Employment and Wage Impacts of Immigration: Theory

4.1 INTRODUCTION

This chapter demonstrates how economic theory can be used to analyze the economic impact of immigration. The discussion starts with the simplest case and progresses to more complex specifications in order to illustrate the various channels through which immigration affects labor markets and how the economy's adjustments mitigate those effects over time. Because adjustments take time, particularly when immigration is unexpected, the initial and longer run impacts of immigration differ. The impact of immigration will also depend on the size of the inflow, the skill composition of immigrants compared to that of the native-born population, and characteristics of the destination country economy such as the ease with which firms can adopt or develop new technologies and the speed at which capital can accumulate or move between industries, as well as the economic links between that country's regions and its degree of integration with the world economy.

Theory predicts that immigration initially confers net economic benefits on the destination country economy while creating winners and losers among the native-born via changes in the wage structure and the return to capital. Resulting changes in factor prices increase the production of goods and services that use the type of labor that immigrants provide most intensively. With time, the capital stock adjusts and eventually technology may respond as well, pushing up the demand for labor and hence wages toward their original levels. It bears noting that, if firms anticipate immigration and there is no lag in the response of capital and technology, the length of time elapsing between an immigration inflow and the "long-run" adjust-

ment of the labor market could be very short. Either way, if the economy simply returns to a larger version of its pre-immigration state, with the same capital-labor ratio, there are no winners and losers among the native-born, but equally, no net benefit to them from immigration.

This chapter provides a simple, largely graphical description of the often mathematically complex theoretical models that economists use to analyze the impact of immigration (or other labor supply shocks). The analysis relies heavily on the shifting of supply and demand curves, since these are most familiar to a general audience. It should be emphasized that these graphics only partly reflect the dynamic and general equilibrium characteristics of the models described here.

Most of the analysis is qualitative, designed to identify the mechanisms through which an influx of new immigrants is likely to affect wages and returns to capital as well as the overall level of income enjoyed by the native-born population that absorbs them. The concept of an *immigration surplus* as developed by Borjas (1995b) is introduced to quantify how, abstracting from fiscal effects, the arrival of immigrants affects the welfare of the native-born population on net. The panel quantifies these effects by inserting aggregate measures from national accounts or parameter estimates from empirical research. The emphasis here is on providing plausible orders of magnitude for the changes we model and should not be confused with the statistical estimation that is at the heart of Chapter 5.

4.2 A SIMPLE MODEL WITH A SINGLE TYPE OF LABOR

To understand the impact of immigration as seen through the prism of economic theory, it is easiest to begin by analyzing the simplest possible model, one constrained by highly unrealistic assumptions, and then consider the implications of more complicated models that arise as at least some of these assumptions are removed. We begin by assuming that the economy is inhabited by a large number of identical individuals and firms and that all economic activity is devoted to the production of a single consumption good. Firms produce this good by combining two highly aggregated inputs: work effort or labor, for which the individuals in this economy receive a wage (w) paid by the firm, and the physical capital (the tools, equipment, machinery, and buildings) each firm owns. We assume that all individuals devote a fixed amount of time to work activities (the quantity of labor supply is perfectly inelastic—it does not respond to wage changes) and that the stock of physical capital is initially fixed. For the moment, we also assume that ownership of firms is equally distributed across the population, whose wage income is supplemented by dividends paid by these firms. For simplicity of expression, we use the term “native” to refer to the native-born population.

Initial Labor Market Effects of Immigration

The diagram in Figure 4-1 describes the labor market in this simple model of the economy. For firms, the demand for labor is a decreasing function of wages represented initially by L_1^D , and the labor supplied by the native workers is fixed at N . The initial equilibrium (denoted by the number 1) is the point where labor supply L_1^S and labor demand L_1^D cross, and this point determines the wage w_1 . In this economy, total income is equivalent to the amount produced of the single good and is represented by the area underneath the demand curve: the triangle A and the two rectangles B and C, or $A + B + C$. The area of the two rectangles B + C represents the income the people in this economy receive from firms as labor earnings ($N \times w_1$). The triangle A represents the accounting profits received by firms from the sale of goods after the cost of labor has been paid; these profits are assumed to be remitted to the population as dividends.

Now consider what happens when there is a sudden unanticipated increase in the population due to an influx of new immigrants. These new immigrants increase the total labor supply from N to $N + M$, and the labor supply curve shifts from L_1^S to L_2^S . Crucially, we assume these new immigrants arrive without capital and that they do not receive a share of the

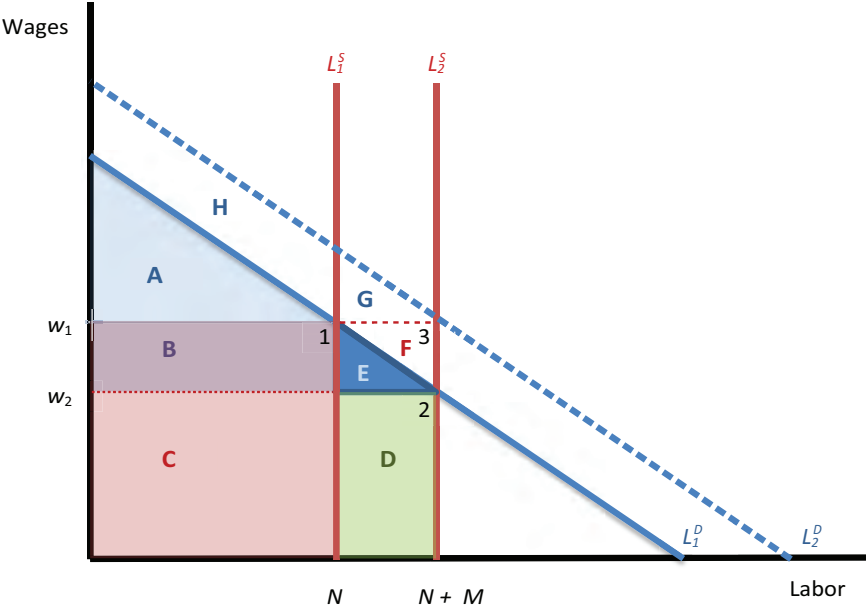


FIGURE 4-1 Labor market (with inelastic labor supply) response to an influx of immigrant workers.

existing capital, which remains wholly owned by the native-born population. At the new equilibrium (marked with the number 2), wages are w_2 ($w_2 < w_1$), so the immediate effect of the influx of new immigrants is to drive down the wage. Now firms pay wage income to workers ($N \times w_2$), corresponding to rectangle C, to the native population, and $w_2 \times M$, corresponding to rectangle D, to immigrants; the value of the total amount of goods produced increases to $A + B + C + D + E$. The profits earned by the firms increase from the area represented by triangle A to $A + B + E$. Rectangle B represents the amount firms once paid as wages to natives but which now is paid to them as dividends instead. Triangle E represents the part of the overall increase in income ($D + E$) not captured by the immigrants themselves; this is commonly called the “immigration surplus.” The immigration surplus represents the benefit that accrues to the native population from an inflow of new immigrants.

Although immigrants are consumers as well as workers, the demand curve for labor does not shift outward in this simple model until capital adjusts. The reason for this is that the demand curve is determined by the economy’s productive capacity, and the addition to aggregate consumption created by the immigration-driven population growth is represented as a movement along the demand curve. Although the extra labor causes the aggregate amount of output to rise, *per-capita output*—output divided by the new, higher number of people in the economy—initially declines. **To summarize, in this simple theoretical model of the labor market, the influx of immigrants initially drives down wages but native incomes still rise in the aggregate due to the immigration surplus.**

Initial Capital Market Effects of Immigration

There are two input factors in this model economy, capital and labor, and it is important to also consider how immigration affects the market for capital. The diagram in Figure 4-2, which describes the capital market in this economy, is sufficient to illustrate most of the changes that occur following an influx of additional workers. The cost of capital for firms can be either the interest rate at which they borrow or, if funded from retained earnings, the rate of return available on an alternative investment. In this simple framework, the two are identical. Meanwhile, the economy-wide cost of capital for households is the rate of return on their asset holdings. The demand curve for capital slopes downward since firms choose to acquire less new capital and hold less existing capital at higher rates of return (or cost of capital for the firm).¹ The amount of capital available is initially fixed at K_1 and the initial equilibrium (denoted by the number 1) determines the initial rate of return r_1 .

¹We use the term *rate of return* rather than *cost of capital* because our focus is on the two sources of income for households, namely wages and the return on assets.

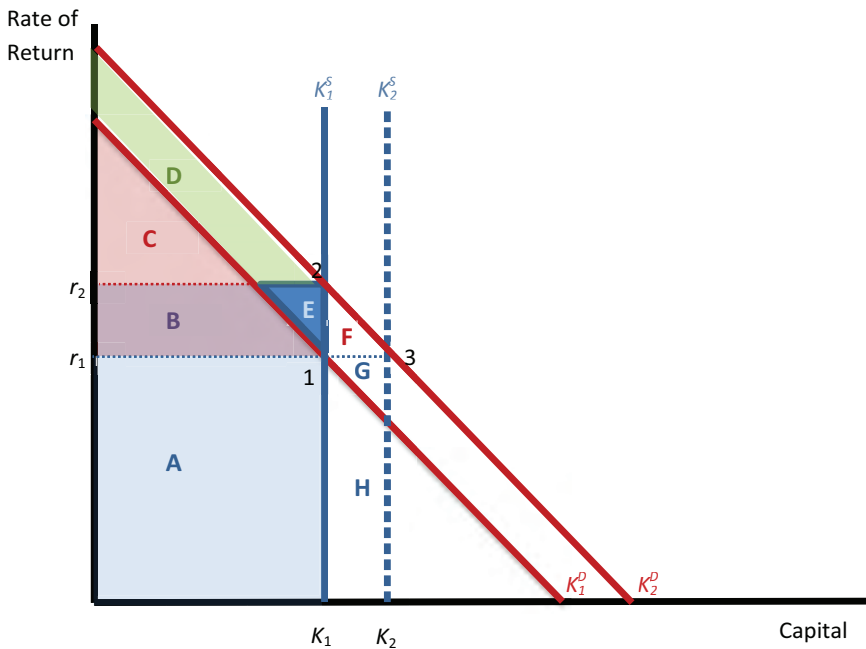


FIGURE 4-2 Capital market (with inelastic labor supply) response to an influx of immigrant workers.

The area underneath the demand curve once again equals the amount of the single good produced as well as total income. The area of the rectangle A in Figure 4-2 is the amount $r_1 \times K_1$ paid by firms as dividends and corresponds exactly to the area of the triangle A in Figure 4-1. Likewise, the areas of the triangle C and the right trapezoid B in Figure 4-2 correspond to the areas of the rectangles B and C respectively in Figure 4-1. This once more is the amount the firm initially pays in wages.

An influx of new immigrants (an increase in labor relative to capital) makes each unit of the pre-existing capital stock more productive. The rightward shift in the demand curve for capital from K_1^D to K_2^D in Figure 4-2 captures this rise in the rate of return to capital. If one assumes that the production technology has an attribute economists call constant returns to scale—which specifies that output quantity increases by the same proportion as the quantity of all inputs—the horizontal distance between K_1^D and K_2^D , measured in percentage terms, is equal to M/N (the ratio of immigrant to native labor).² The right trapezoid B is the amount of income once paid

²Constant returns to scale means that if all the inputs increase by x percent, the output they produce increases by the same x percent.

as wages but now paid as dividends, and the wages paid to the natives are reduced to the triangle C. The area in trapezoid D represents the wages paid to immigrants, and triangle E once again represents the immigrant surplus. Modeling the impact of immigration in terms of its impact on the market for capital is admittedly less intuitive than modeling it in terms of its impact on the labor market. However, the rise in the rate of return to capital from r_1 to r_2 in Figure 4-2 underlines an important insight: the immigration surplus arises because the labor supplied by new immigrants makes native-owned capital more productive. Restating, **immigration raises the return to capital, making capital more productive and increasing income to owners of capital.**

How Big Is the Immigration Surplus?

How can one quantify the size of the immigration surplus? A simple approximation for the area E in Figure 4-1 yields $\frac{1}{2}(w_2 - w_1)M$ or, restated as a fraction of total output Y , E equals $\frac{1}{2}\left(\frac{M}{N}\right)^2 \frac{w_2 N}{Y} E_{LL}$, where E_{LL} is the elasticity of the own-factor price for labor (that is, the percentage change in wages divided by the percentage change in labor between point 1 and point 2), $\frac{w_1 N}{Y}$ represents the share of income initially paid to natives, and $\frac{M}{N}$ is the size of the immigration surge relative to the native workforce.³ In the United States, 65 percent of total national income is paid as employee compensation; it is therefore reasonable to assume that the elasticity of the own factor price for labor is -0.35 and the elasticity of the rate of return with respect to labor is 0.65 .⁴ The area represented by triangle E grows quadratically with the increase in the proportion of new immigrants so, unless the increase in the workforce generated by an influx of new immigrants is very large, the overall increase in income will be relatively small. A 1 percent increase in the workforce caused by an influx of immigrants

³From Borjas (2014), we define the factor price elasticity $E_{LL} = \left(\frac{w_2 - w_1}{w_1}\right) / \left(\frac{M}{N}\right)$ which is the inverse of the elasticity of labor demand. Therefore $\frac{w_2 - w_1}{Y} = E_{LL} \frac{M}{N} \frac{w_1}{Y}$ and $\frac{1}{2} \frac{(w_2 - w_1)M}{Y} = \frac{1}{2} \left(\frac{M}{N}\right)^2 \frac{w_1 N}{Y} E_{LL}$.

⁴For a simple Cobb-Douglas production function, these elasticity values follow directly from the share of national income paid as employee compensation (equal to 0.65) and the approximation $E_{LL} = \frac{w_1 N}{Y} - 1$. In this case the immigration surplus is $-\frac{1}{2} \left(\frac{M}{N}\right)^2 (1 + E_{LL}) E_{LL}$.

lowers wages by 0.35 percent, raises the rate of return to capital by just under eight basis points (or 0.08%) and generates an immigration surplus of \$199 million for the native population in an economy with an annual gross domestic product (GDP) of \$17.5 trillion.⁵ An increase in the workforce twice as large, equivalent to 2 percent of the U.S. workforce, generates a decline in wages of 0.75 percent and an immigration surplus four times larger, equivalent to \$796 million.⁶ Rather than focus on an incremental inflow of workers, the model can also generate estimates of the wage impact and immigration surplus of the entire immigrant population. Immigrant labor accounts for 16.5 percent of the total number of hours worked⁷ in the United States, which, using this methodology, implies that the current stock of immigrants lowered wages by 5.2 percent and generated an immigration surplus of \$54.2 billion, representing a 0.31 percent overall increase in income that accrues to the native population. However, it bears noting that it is problematic to apply the same static methodology used for small temporary inflows to measuring the impact of the entire population of immigrants, which has grown over the course of decades. Over such a long period of time, capital has had plenty of time to adjust, and so these estimates can at best be described as upper limits that exaggerate the real impact of immigration on native wages and overall incomes.⁸

In summary, natives' incomes rise in aggregate as a result of immigration; the size of the increase depends on the number of immigrants relative to natives, natives' share of income, and the size of the wage effect of immigration.

⁵The cross-factor elasticity that measures the increase in gross returns in response to the increase in the labor force is defined as $E_{KL} = \left(\frac{r_2 - r_1}{r_1 + \delta} \right) / \left(\frac{M}{N} \right)$. For a simple Cobb-Douglas production function, $E_{KL} = \frac{w_1 N}{Y}$. If one assumes a capital output ratio of 3 and a rate of depreciation of 0.05, the initial net real rate of return to capital is 6.67 percent.

⁶An immigration influx 10 times larger than the 1 percent example—one that increases the labor force by 10 percent—will have an impact on both wages and the return to capital that is also about 10 times larger. Wages drop by 3.5 percent and the rate of return to capital rises by about 75 basis points. However, because of the squared term in the formula for the immigration surplus, the surplus increases 100-fold, to \$19.9 billion. Hence the ratio between the benefit that accrues to natives as a group (total income = wages + dividends) from immigration, compared to the amount of redistribution between different sources of income (wages versus dividends), rises rapidly with the immigration influx.

⁷U.S. Census Bureau, Current Population Survey (CPS), unweighted average across years 2013, 2014, and 2015.

⁸Ben-Gad (2004) demonstrated that dynamic calculations of the surplus are considerably lower than those obtained using Borjas' (1995b) static approach.

Who Gets the Immigration Surplus?

Consider the factors that affect the decrease in the wage bill paid to natives, represented by the area of rectangle B in Figure 4-1. A decline in wages of 0.35 percent in this simple model economy, assuming a GDP of \$17.5 trillion, implies that as much as \$39.6 billion that was once paid as wages is now paid as returns to capital (for the 1% immigration-induced workforce increase scenario). Of course this is immaterial if our initial (unrealistic) assumption holds that all the natives are identical and own equal shares of the nation's capital stock. Indeed, even if people have radically different levels of income, as long as everyone shares the same proportion of income derived from wage earnings and capital income, the shift between the two generated by immigration has no impact on the distribution of income. But what if the proportions are not equal? If, to take an extreme example, the population is divided between those who derive all their income from work and others who derive all their income from capital, the shift in resources described in this example is potentially substantial. Even for the case of a 1 percent increase in the number of workers, the shift from wages to income from capital outweighs the immigration surplus by a factor of nearly 200.

In practice, most people derive at least some of their lifetime income from capital, if not directly through capital gains, dividends, rents, or interest payments, then indirectly through the ownership of their own residence and through pension savings. Still, the composition of income varies significantly across the income distribution, with those at the very top receiving larger shares of their income from capital than those at the bottom.⁹ This means that not only does a disproportionate share of the immigration surplus accrue to people who enjoy higher incomes but the shift in overall income composition in response to immigration can at least initially exacerbate income inequality and could leave some people absolutely worse off.

In summary, the immigration surplus stems from the increase in the return to capital that results from the increased supply of labor and the subsequent fall in wages. Natives who own more capital will receive more income from the immigration surplus than natives who own less capital, who can consequently be adversely affected.

⁹The Gini coefficient for earnings is 0.489 but 0.898 for interest, 0.789 for dividends and 0.753 for rents, royalties, estates or trusts (U.S. Census Bureau, 2014). Zero on the Gini scale indicates perfect equality in distribution (of earnings, or income, or whatever is being measured), and a score of 1.0 indicates total inequality. Salaries, wages, and pension income account for 91.17 percent of income for people in the top 10 to 5 percent of the income distribution, 83.35 percent for people in the top 5 to 1 percent, 72.34 percent for people in the top 1 to 0.5 percent, 60.46 percent for the top 0.5 to 0.1 percent, 46.65 percent for the top 0.1 to 0.01 percent, and 33.47 percent for the top 0.01 percent (Alvaredo et al., 2013).

The Effects of Capital Adjustment: What If Immigrants Bring Capital with Them?

All the changes in wages and the distribution of income analyzed above are predicated on the assumption that the aggregate stock of capital remains fixed even as the income each unit generates increases. More likely one should expect that, as the influx of immigration raises the rate of return to capital from r_1 to r_2 in Figure 4-2, an incentive is created for more of it to be produced or to flow from abroad. The accumulation of additional capital has a number of effects: wages are restored to their original level, the return to capital falls, and the immigration surplus dissipates. As noted below, this is typically referred to as the long-run impact of immigration because capital responds with a lag when immigration is unanticipated.

One can also illustrate the impact of capital's response to immigration with the following thought experiment: What would happen if each immigrant not only supplied additional labor, but arrived in the country with an amount of capital that matched the capital holdings of the natives? Once again the supply curve for labor shifts from L_1^S to L_2^S , but now this is accompanied by a shift in the demand curve from L_1^D to L_2^D as the additional capital the immigrants bring raises the marginal product of labor. If one further assumes a constant returns to scale production technology, the economy reaches equilibrium points marked by the number 3 in both Figures 4-1 and 4-2, where neither the wage nor the rate of return to capital changes, there is no immigration surplus or change in the composition of income, and the initial ratios between capital and output and labor and output are restored. The economy is larger, of course, but all the benefits of immigration, whether in terms of wage earnings, represented by the areas D, E, and F, or the income generated by the capital imported by the new immigrants, represented by areas G and H, accrue to the new immigrants. This implies that programs designed to facilitate the immigration of people who agree to invest in the domestic economy will indeed ameliorate or even reverse the impact of immigration on wages and the distribution of income; but, perhaps counterintuitively, such programs will also reduce or eliminate the immigration surplus that otherwise would accrue to natives.

Assuming constant returns to scale, if immigrants bring enough capital with them such that the capital-labor ratio does not change, then the economy simply grows larger. There is no negative wage impact nor is there an immigration surplus.¹⁰

¹⁰If production is characterized by increasing returns to scale, where a particular fractional increase in all inputs yields more than the same fractional increase in output, an influx of immigrants together with capital may generate a rise in wages and a positive immigration surplus.

How Else Can Capital Adjust?

Of course immigrants need not arrive with capital for immigration to prompt an adjustment to the stock of capital. Instead, the upward pressure on the rate of return to capital generated by the arrival of new workers provides an incentive for capital to either flow from abroad or to accumulate domestically. Here it is important to emphasize the unique attributes of the U.S. economy compared with smaller counterparts. Often it is appropriate to analyze the behavior of an economy using a small open-economy model. This is particularly appropriate if a large fraction of the economy's output is devoted to exports, if it is very open to inflows of capital from abroad, and if it represents such a small share of world output that changes in economic conditions originating in that country are unlikely to have meaningful effects on the global economy. In the context of a small open economy, an influx of immigrant workers is likely to be accompanied by an inflow of capital from abroad. Those who own the newly invested capital also own a claim to the income it generates, represented by the area of $G + H$ in Figure 4-2. Once again, if capital flows into the economy along with the additional new immigrants, there is no change to native welfare or to the distribution of income between capital and labor.

Yet, even if capital flows freely into a small open economy and all the additional capital is readily purchased and easily transportable, there can still be substantial delays between the arrival of new immigrants and the time when new capital is ultimately installed. If the unexpected influx of new immigrants is relatively small, the resulting increase in the rate of return to capital will not be very large and will probably be very short-lived because the additional capital can be easily procured and installed at a low cost. Alternatively, if the influx of new immigrants is relatively large, the inflow of capital required to lower the rate of return to its long-run value will necessarily be large as well. Any effort to expedite the process of procuring and installing large amounts of additional capital, particularly as the immigrant influx was unforeseen, carries additional costs.¹¹ Meanwhile, during the period of adjustment, immigration exerts downward pressure on wages.

Of course the United States economy is not small and, as a consequence, transactions with the rest of the world account for a smaller share of its economic activity than for any other industrialized country. This means that much of the new capital added to the economy following an influx of new immigrants is likely to be produced locally. Higher rates of

¹¹Small open economy models typically include convex capital adjustment costs to ensure that investment is not more volatile than what one typically observes in the data. See, for example, Hansen et al. (2015). Klein and Ventura (2009) analyzed the impact of enlarging the European Union and creating a common labor market in North America in a model where capital flows freely across borders.

return induce higher savings rates and some shifting of production from consumer goods to capital. Yet, because people generally dislike sharp fluctuations in the amount they consume, this capital adjustment process may occur gradually, even in the absence of capital adjustment costs. Of course, if immigration is anticipated, then capital may adjust much faster. In fact, if the immigration episode is fully anticipated, capital can be increased in advance, reducing or eliminating the adjustment period.

Ben-Gad (2004) used a general equilibrium optimal growth model—the standard macroeconomic model where savings and investment are endogenously determined—to investigate the behavior of wages, returns to capital, and the size of the immigration surplus following an unanticipated change in immigration policy. To understand the overall effect of immigration flows, the change considered is a radical one—the permanent suspension of all future immigration to the United States. The result is a gradual increase in wages until they are 0.8 percent above their previous trend, and the rate of return to capital falls by 6 basis points, the equivalent of a decrease in interest rates from 4.06 to 4.00 percent.¹² Pursuing such a policy would mean relinquishing the immigration surplus. Yet, since capital gradually adjusts following the suspension of immigration, the loss measured in terms of the size of the U.S. economy in 2014 would amount to only about \$4 billion.

Summarizing, even if immigrants arrive without capital, domestic savings and investment will rise as a result of the higher return to capital. Once the capital-labor ratio is restored, the adverse wage effect of immigration and the immigration surplus disappear.

4.3 EMPLOYMENT EFFECTS OF IMMIGRATION WITH ELASTIC LABOR SUPPLY

In exploring these simple models of the economy so far, we have assumed that the amount of labor each worker supplies is fixed rather than a function of wages or other income. Suppose instead that for each percentage increase in wages, workers, whether native or immigrant, increase the amount of labor l they supply to the market by ν percent. The initial labor supply curve in Figure 4-3, L_1^S , is no longer vertical but slopes upwards and the total amount of labor supplied in equilibrium is $N \times l_1$. The arrival of M additional immigrants shifts the labor supply curve by the horizontal distance M to L_2^S , which exerts downward pressure on wages. Lower wages mean the equilibrium amount of labor supplied by each worker drops from

¹²Unlike the static analysis, here the change in immigration represents a change in long-run flows. The flow of immigrant workers dilutes the capital stock, hence any change in the flows has permanent (albeit small) effects on wages and the rate of return to capital.

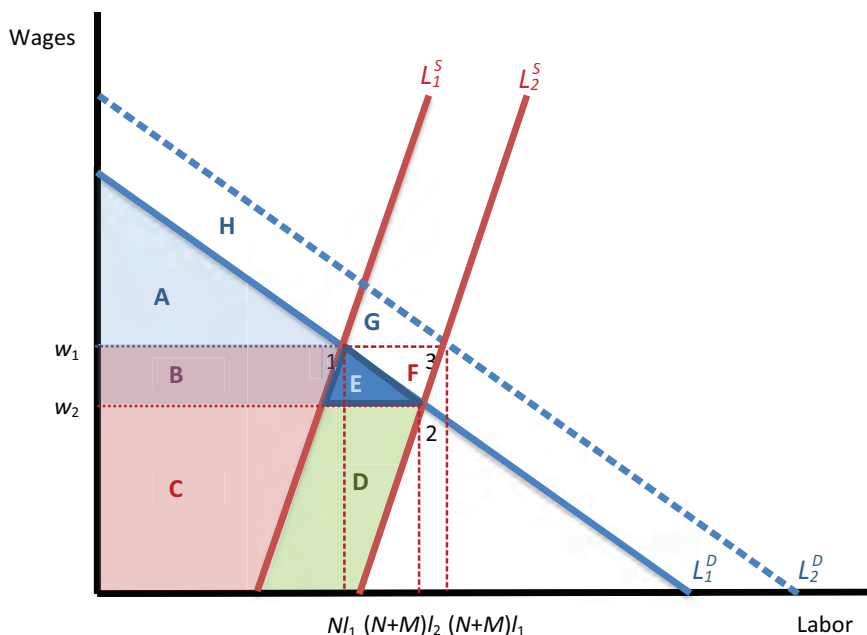


FIGURE 4-3 Labor market (with elastic labor supply) response to an influx of immigrant workers.

l_1 to l_2 while the aggregate amount of labor increases to $(M + N)l_2$. Qualitatively, the results from the previous section do not change: the unanticipated arrival of immigrants increases the amount of labor in the economy and initially lowers wages. The difference is quantitative: the higher the value of the own-wage supply elasticity, ν , the more the per capita amount of labor rather than the wage adjusts with the arrival of the immigrants.

If the factor price elasticity of labor demand is $E_{LL} < 0$, the change in wages from w_1 to w_2 in Figure 4-3 following an immigration influx of size M is $\frac{E_{LL}}{1 - \nu E_{LL}} \frac{M}{N} w_1$ or $\frac{E_{LL}}{1 - \nu E_{LL}} \frac{M}{N}$ when measured in percentage

terms. The increase in the rate of return on capital is also mitigated by the adjustment of labor supply in response to lower wages; the demand curve for capital in Figure 4-4 initially shifts only part of the way outward and only shifts further as the supply of capital adjusts. The smaller the decline in wages the immigrants create, the smaller the immigration surplus they generate.

The area of triangle E in Figure 4-3 corresponds to the immigration sur-

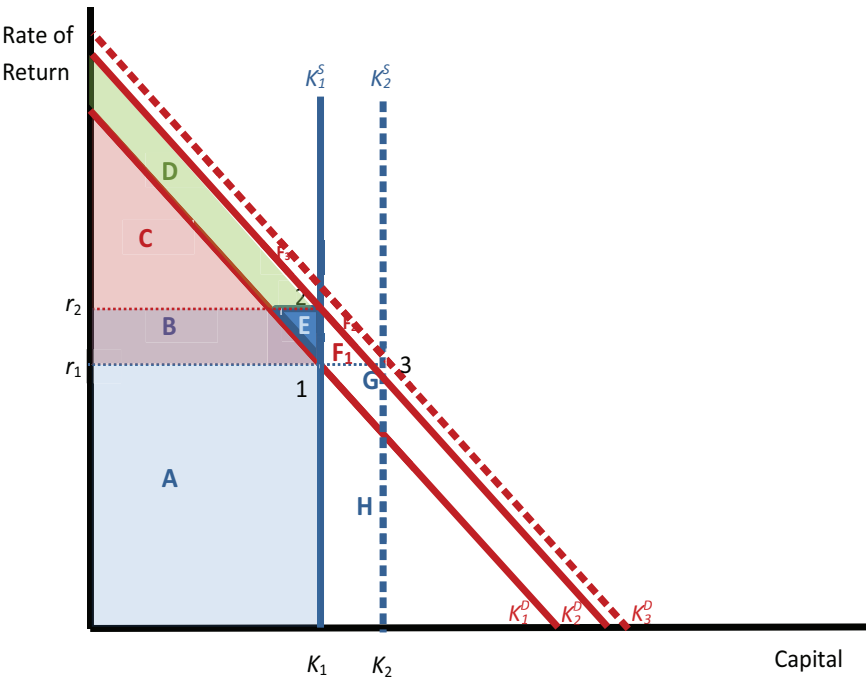


FIGURE 4-4 Capital market (with elastic labor supply) response to an influx of immigrant workers.

plus. When measured as a fraction of output, it is $-\frac{1}{2}\left(\frac{M}{N}\right)^2 \frac{w_1 N}{Y} \frac{E_{LL}}{1-\nu E_{LL}}$ and it also declines as the value of ν increases. How large a value of ν could one reasonably assume? Few econometric studies estimate a single elasticity of labor supply for the entire population. At minimum, labor econometricians divide the population by gender and marital status and estimate elasticities for each subpopulation. The highest value for ν found by Blau and Kahn (2007) is 0.4 (for married women). If one treats $\nu = 0.4$ as an upper bound, and assuming once again that compensation of employees accounts for 65 percent of national income, the immigration influx that raises labor supply by 1 percent now yields an immigration surplus of only \$175 million, an influx of 2 percent yields \$698 million, and the entire stock of current immigrants, who contribute 16.5 percent of total hours worked, yields \$47.5 billion.¹³

¹³By contrast, in Ben-Gad's (2004) dynamic model with endogenous capital, if the elasticity of labor supply is 0.75, the loss to natives of abolishing future immigration flows is only \$3 billion.

In summary, if some natives exit the labor force in response to immigration, then there is an employment effect of immigration in addition to a wage effect. The wage effect is smaller, however, than in the case where native labor supply is fixed.

4.4 MULTIPLE TYPES OF LABOR

Complementarities Between Worker Types

The simple models presented thus far have assumed there is a single labor market in the economy where all workers supply the same amount of labor and where this labor is qualitatively identical. In reality, workers differ in their levels of skill, experience, and education and in their occupations. Thus, in a modern economy there is not one uniform labor market but many.

To keep the analysis simple, we now assume that there are only two types of workers. One type supplies high-skilled labor and the other supplies low-skilled labor. The distinction between the two types of workers is sometimes made on the basis of what type of jobs they perform, but more often it is imputed on the basis of how many years of schooling or educational qualifications they have accumulated. In the model explored here, firms employ both types of workers along with capital to produce final goods. For simplicity, we once again assume that each worker supplies a fixed amount of his or her type of labor in the market.

Immigrant worker type will be crucial in determining how their arrival will affect wages and the returns to capital. In Figures 4-5, 4-6, and 4-7, the panel considers the case in which all immigrants fall into the low-skilled category—this is of course a gross simplification. In Figure 4-5, the arrival of M_u low-skilled immigrant workers, augmenting the population of low-skilled native workers N_u , means that, just as in Figure 4-1, the supply curve in the market for low-skilled labor $L_{u,1}^S$ shifts to $L_{u,2}^S$. Wages for low-skilled workers decline from their initial value of $w_{u,1}$ to $w_{u,2}$. In the economy with undifferentiated labor, the influx of immigrant workers in Figure 4-1 raised the productivity of the second factor of production, capital, as shown in Figure 4-2. Likewise, here, the influx of low-skilled workers complements the other two factors of production, capital and high-skilled labor, and raises their productivity. This change in the market for high-skilled labor is captured in Figure 4-6 by the shift in the demand curve $L_{s,1}^D$ to $L_{s,2}^D$ and the rise in wages for high-skilled workers from $w_{s,1}$ to $w_{s,2}$. As before, the increase in the supply of one factor of production, in this case low-skilled labor, increases the value of the remaining factors, both high-skilled labor in Figure 4-6 and capital in Figure 4-7, where the influx of new immigrants once more causes the outward shift in the demand curve from K_1^D to K_2^D and raises the rate of return from r_1 to r_2 .

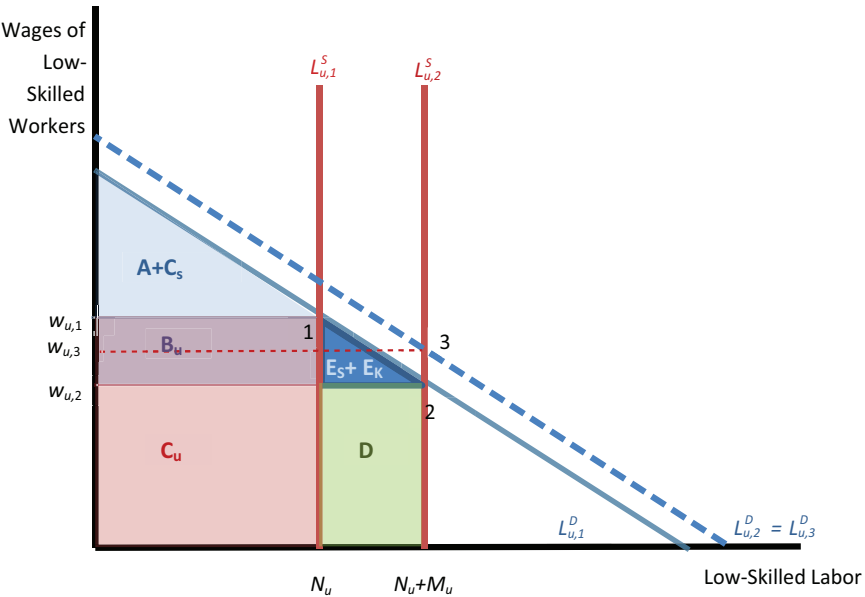


FIGURE 4-5 Low-skilled labor market response to an influx of low-skilled immigrant workers.

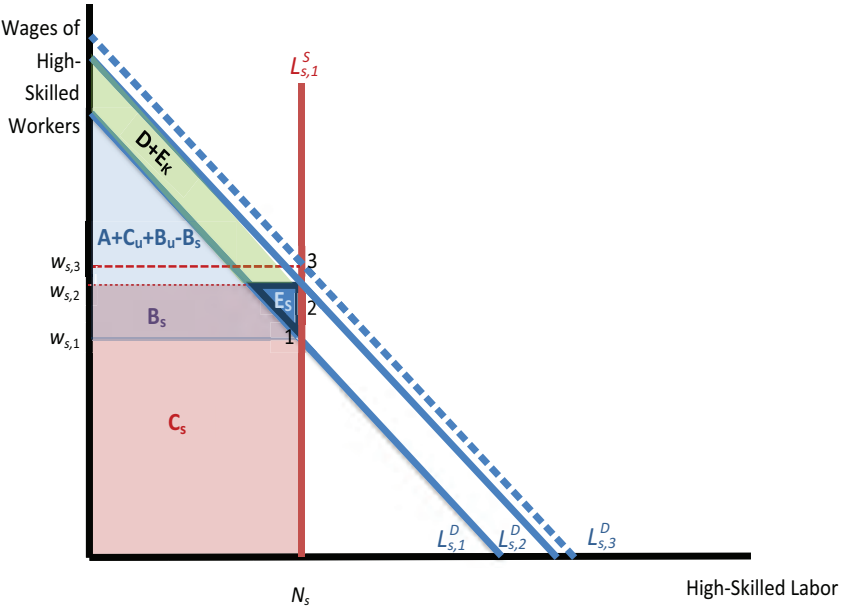


FIGURE 4-6 High-skilled labor market response to an influx of low-skilled immigrant workers.



Moreover, the way the model distinguishes between different types of workers crucially affects how the wage rate will respond to influxes of new immigrants. The more the labor force is disaggregated, the larger the own-wage response will be to an increase in immigration if all the immigrants are

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confined to one particular category of labor. Even if the analysis is restricted to just two types of labor, the more broadly the category of high-skilled workers is defined, the more narrow the category of low-skilled workers will be and, in all likelihood, the larger (in absolute value) the corresponding elasticity of the own-factor price for low-skilled labor E_{UU} . What this means is that the slope of the low-skilled labor demand curve $L_{u,1}^D$ in Figure 4-5 is likely to be steeper than the slope of the aggregate labor demand curve L_1^D in Figure 4-1.

The effect of low-skilled immigration on the other two factors of production largely depends on the value of elasticities E_{SU} and E_{KU} , which represent the percentage change in high-skilled wages and returns to capital, respectively, divided by the percentage change in the number of low-skilled workers. Most evidence suggests that these elasticities are positive but not very large. In other words, there is a relatively low degree of complementarity and comparatively high degree of substitutability between low-skilled labor and both high-skilled labor and capital. This means that the shifts in the demand curves $L_{s,1}^D$ to $L_{s,2}^D$ and K_1^D to K_2^D are not likely to be very large, and consequently the initial increase in wages from $w_{s,1}$ to $w_{s,2}$, and the increase in returns to capital r_1 to r_2 are unlikely to be very large either.

The bottom line here is that immigration is predicted to raise native wages in the case where immigrant and native workers are complements, meaning their productivity rises from working together. Native workers who are substitutes for immigrants, however, will experience negative wage effects.

The Immigration Surplus with Immigrant–Native Complementarity

In the model above, the two elasticities E_{SU} and E_{KU} determine the size of the short-term immigration surplus, which now comprises two elements: the surplus that accrues to native high-skilled workers, represented by the triangle E_S in Figure 4-6, and the surplus that accrues to whichever natives own capital, represented by the triangle E_K in Figure 4-7.¹⁵ The size of each triangle is determined by the magnitude of the shift in the demand curve which is, in turn, determined by the elasticities E_{SU} and E_{KU} . The sum of the two surpluses represented by E_S and E_K is equal to the area of the triangle marked $E_S + E_K$ in Figure 4-5. Indeed, as long as the influx of immigrants is confined to one skill category, it is sufficient to know the elasticity of

¹⁵If one assumes the constant returns aggregate production function $F(x)$ applies, there is a close relationship between all the factor price elasticities: $\sum_i E_{ij} = 0$ and $\sum_i \alpha_i E_{ij} = 0$, where

$E_{ij} = \alpha_i c_{ij}$. The elasticity of complementarity between factors i and j is $c_{ij} = \frac{F(x) E_{ij}}{F_i F_j}$.

demand for that type of labor to determine the size of the immigration surplus, which can then be calculated as it was in the case of undifferentiated

labor, using the formula $-\frac{1}{2}\left(\frac{M_u}{N_u}\right)^2 \frac{w_{1,u}N_u}{Y} E_{UU}$.

Suppose again that the population is equally divided between high- and low-skilled workers and that the former receive a wage twice as high as the latter. The share of income paid for low-skilled work is now one-third of 0.65 (the overall share of earnings in total national income), or approximately 0.22, against 0.43 (the remaining portion) for high-skilled work. Finally, assume the value of $E_{UU} = -0.6$. Together these values imply that an influx of low-skilled immigrants that increases the overall labor force by 1 percent but raises the size of the low-skilled workforce by 2 percent lowers low-skilled wages by 1.2 percent. The influx generates an immigration surplus of just under \$462 million for the \$17.5 trillion U.S. economy, which is substantially larger than the immigration surplus in the model above that assumed only one type of labor. If one now assumes that $E_{KU} > 0$, the value of E_{SU} can be at most no higher than 0.31, which means wages for high-skilled workers increase by no more than 0.62 percent in response to the influx of low-skilled immigrants. Borjas (2014a) cited $E_{SU} = 0.05$ as a more empirically plausible number, which implies a rise in wages of 0.1 percent. Furthermore, if $E_{UU} = -0.6$ and $E_{SU} = 0.05$, the income shares imply $E_{KU} = 0.32$, so the losses experienced by low-skilled workers represent for the most part gains to owners of capital rather than to high-skilled wage earners.

Summarizing, the immigration surplus is larger when immigrant workers are complementary to natives. Income from the surplus accrues to both owners of capital and high-skilled workers when immigrants are low-skilled.

Capital Accumulation in a Model with Immigrant-Native Complementarities

As in the one-labor-category model (Section 4.2), the rise in the rate of return to capital in the two-category model induces capital inflows or capital accumulation. This process raises the wages of both types of workers. Wages of high-skilled workers rise still further as the stock of capital grows, and the wages of low-skilled workers partially recover as well. Yet with more than one type of labor, neither the process of capital accumulation nor even the free flow of capital from abroad is sufficient to guarantee that wages return to their previous levels for *both* groups following an unexpected immigration episode, even in the long run, unless it also affects native occupational choice and investment in education. And even then this adjustment is a very long-run phenomenon. What this means is that

the shift in low-skilled wages from $w_{u,2}$ to $w_{u,3}$ only partially mitigates the initial decline from $w_{u,1}$.¹⁶

Restating this, once the capital-labor ratio is restored, average wages are also restored, as in the model with just one type of labor. However, in a framework with two types of labor and regardless of any complementarities, *relative* wages may not return to pre-immigration levels. If immigrants are low-skilled, the deterioration of the relative wages of low-skilled workers may persist in the long run.

The Role of Capital-Skill Complementarity in the Immigration Surplus

There is one more aspect to the dynamic impact of capital accumulation in this context. Empirical work on U.S. manufacturing, dating back to work by Zvi Griliches (1969) and confirmed by subsequent research, suggests there is evidence of what economists call “capital-skill complementarity.”¹⁷ Indeed, consistent with this evidence, in representing the demand curves in Figures 4-5 and 4-6, we assumed that the factor price elasticity of the demand curve for high-skilled workers is higher in absolute value than that corresponding demand curve for low-skilled workers—that is, that the demand curve for high-skilled workers is more steeply sloped than the demand curve for low-skilled workers. The result is that additional increments of capital raise the productivity and hence the wage of high-skilled workers more than they raise the wage of low-skilled workers. Though wages for both may rise, the additional capital also partly substitutes for low-skilled labor to a degree it does not substitute for high-skilled labor.

Capital-skill complementarity has another implication: The immigration surplus generated by an increase in the number of high-skilled workers is potentially much larger than for a similar-sized influx of low-skilled workers. To see this, consider what happens in the market for high-skilled labor when the population of high-skilled native workers N_s is augmented by M_s high-skilled immigrant workers. The labor supply curve shifts from $L_{s,1}^S$ to $L_{s,2}^S$ in Figure 4-8 and wages decrease from $w_{s,1}$ to $w_{s,2}$. The immediate impacts of

¹⁶This is the pattern found by Ben-Gad (2008), who simulated the dynamic behavior of wages and returns to capital following a temporary surge in either low-skilled or high-skilled immigration in a model with a nested constant elasticity of substitution (nested CES) production function that incorporates capital-skill complementarities. In Table 5-1 in Chapter 5, the panel considers a different configuration of the nested CES production function in which the elasticities of substitution between different types of labor vary but the elasticities of substitution between capital and the different types of labor are identical.

¹⁷Studies by Fallon and Layard (1975) and Krusell and colleagues (2000) for the United States and by Duffy et al. (2004) using international data all confirm this finding. Goldin and Katz (1998) suggested that capital-skill complementarity emerged during the early 20th century with the transition from artisanal to mass production.

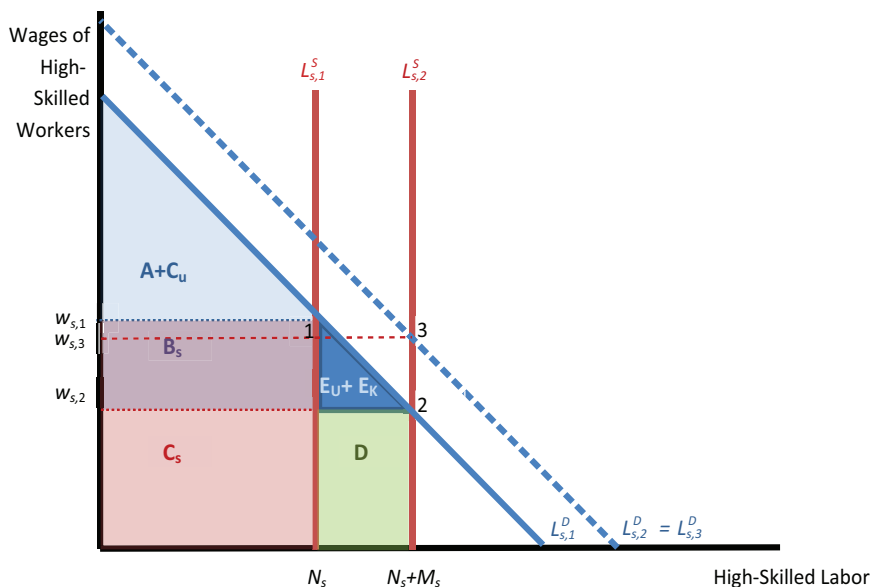


FIGURE 4-8 High-skilled labor market response to an influx of high-skilled immigrant workers.

an influx of each category of immigrant labor skill on the demand for the second category in Figures 4-6 and 4-9 are qualitatively identical, as is the impact on the demand for capital in Figures 4-7 and 4-10.

What is different is that because of capital-skill complementarities, the outward shift in the demand curve from K_1^D to K_2^D in Figure 4-10 is assumed to be substantially larger than the shift in Figure 4-7. This means the rise in the rate of return is larger and the value of the capital-related component of the short-term immigration surplus E_K is larger as well. Indeed, if one assumes that the share of national income captured by high-skilled immigrants is larger than the share captured by low-skilled immigrants and that the elasticity E_{US} is greater than E_{SU} , then the demand curve in Figure 4-9 shifts outward more than in Figure 4-6. Hence, a percentage increase in the number of high-skilled workers raises the wages of low-skilled workers by more than the same percentage increase in low-skilled workers raises the wages of the high skilled.

Assume once again that the initial population is divided equally between high- and low-skilled workers, and that high-skilled workers receive a wage twice that of the low skilled. Assume further that the demand for high-skilled workers is more elastic than for low skilled, such that $E_{SS} = -0.9$.

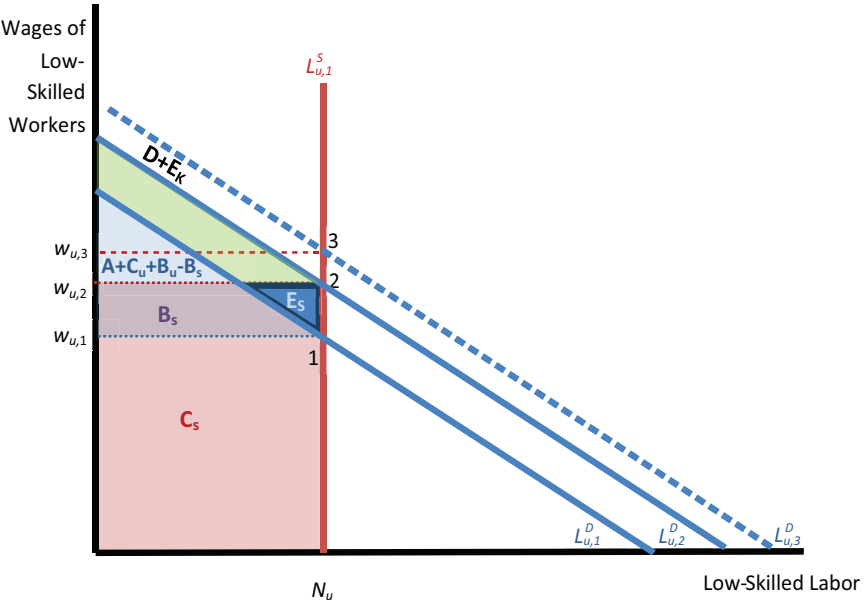


FIGURE 4-9 Low-skilled labor market response to an influx of high-skilled immigrant workers.

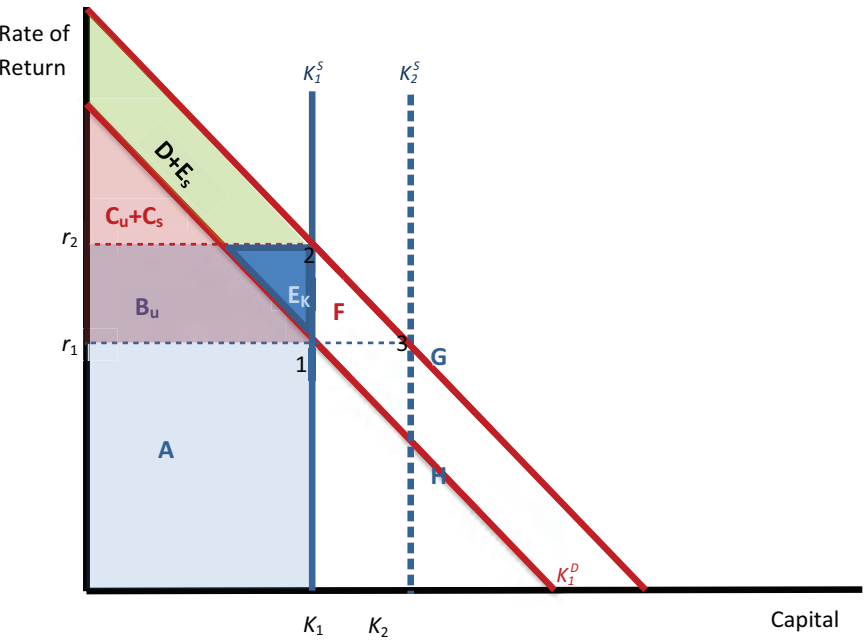


FIGURE 4-10 Capital market response to an influx of high-skilled immigrant workers.

The immigration surplus generated by high-skilled immigrants, here equal to $-\frac{1}{2}\left(\frac{M_s}{N_s}\right)^2 \frac{w_{1,s}N_s}{Y}E_{ss}$, of a 1 percent increase in the number of workers, all now high-skilled immigrants, is equal to just over \$1.35 billion in a \$17.5 trillion economy.

Furthermore, because the rise in the rate of return is higher when high-skilled rather than low-skilled immigrants are added to the economy, the inflow or accumulation of capital will be larger as well. This means that the further increase in low-skilled wages from $w_{u,2}$ to $w_{u,3}$ will be somewhat higher and that, in particular, a more significant portion of the loss in high-skilled wages will be corrected in the long term as the demand curve in Figure 4-8 shifts from $L_{s,1}^D$ to $L_{s,2}^D$. This means that even after the long-run accumulation of capital is accounted for, here the immigration surplus does not completely disappear. Simulations by Ben-Gad (2008) found that even if university-educated workers are only 2.7 times more productive than workers without degrees, university-educated immigrants generate a surplus for natives 10 times larger than the surplus generated by other immigrants.

Immigration generates a surplus that accrues to both immigrants and natives, but the latter capture a larger share of the surplus when immigrants are skilled. **Capital is likely more complementary to high-skilled than low-skilled labor, which has implications for the immigration surplus.**

Immigration Surplus in the Long Run

It might seem odd that the influx of the same number of immigrants who are exclusively either high-skilled or low-skilled can each generate a surplus larger than the influx generated by immigrants in the model with undifferentiated labor. The reason for this result is that by altering the skill distribution in the economy, immigrant labor creates shifts in wages that represent opportunities for native-born workers. In other words, the arrival of new workers from abroad disrupts the relative supply of different factors of production, and it is this disruption that generates the immigration surplus. The more disruptive the influx—here not only the number of workers but the mix of different skill types is altered—the greater the magnitude of the surplus.

This last point is emphasized by Borjas (2014a), who examined the immigration surplus for varying proportions of high- and low-skilled immigration.¹⁸ In his model, the high-skilled group consists of workers with more than a high school education. Applying this criterion to data from the 2000 Decennial Census, 61.4 percent of natives can be categorized as

¹⁸See Chapter 6.

high skilled, but only 48.9 percent of immigrants classify as such. Given that immigrants comprise approximately 15 percent of the U.S. workforce, the theoretically derived calculation of the short-run immigration surplus (where capital remains fixed) yields an estimate of between 0.24 percent and 0.5 percent of GDP, but the long-run surplus (after the stock of capital has adjusted) reduces to between 0.02 and 0.03 percent of GDP. Immigrants fail to generate a substantial surplus because they are too similar to the population absorbing them. By contrast, if all the immigrants were low skilled, the short-run surplus would be between 0.45 and 0.9 percent and the long-run surplus between 0.42 and 0.77 percent. If all the immigrants were high skilled, the corresponding numbers are 0.75 and 1.35 percent in the short run, and 0.16 and 0.31 percent in the long run. In the short run, natives benefit most from the arrival of high-skilled immigrants because of capital-skill complementarities, but in the long run, low-skilled immigrants generate the larger surplus because they are more dissimilar to natives. In all cases, **once capital adjusts, capital-skill complementarity is less important to the immigration surplus.** The extent to which the immigrant skill set differs from that of natives has, in theory, comparatively more effect on the magnitude of the immigration surplus in the long run.

4.5 MULTIPLE TECHNOLOGIES AND MULTIPLE GOODS

Immigration and Output Mix

So far, this discussion has assumed that people in this model economy produce and consume some aggregate good (or, similarly, that there are many goods but they are produced using the same production technology). It is instructive to consider the impact of immigration under a set of alternative assumptions about the nature of markets, including in the context of a model designed to analyze the impact of international trade.

Assume once again that the economy being modeled produces the goods it consumes by combining two factors, capital and labor, but instead of one type of good it now produces two distinct goods, designated A and B in the Lerner diagram in Figure 4-11.¹⁹ The technology represented has the familiar characteristic of constant returns to scale, but allows for different combinations of capital and labor in the production of different goods. More specifically, to produce each unit of good A requires relatively large amounts of capital and less labor, while the production of good B employs relatively more workers and uses less capital. Assume further that all goods are freely traded internationally. This assumption simplifies the analysis because it implies that the prices of each good are set in global markets.

¹⁹The diagram was developed by Lerner (1952).

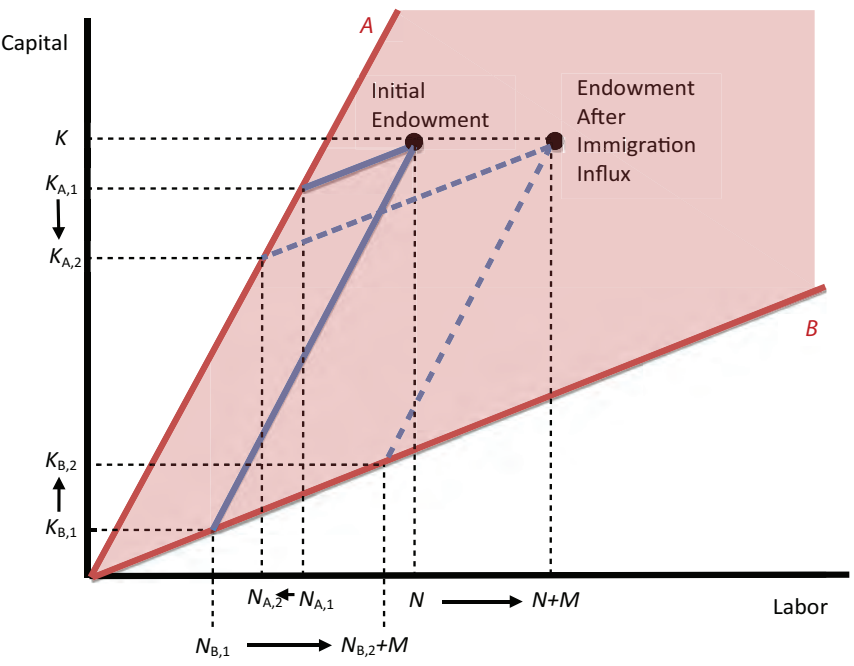


FIGURE 4-11 The allocations of capital and labor in a two-good economy, before and after immigration.

The rays from the origin labeled A and B each represent the combination of capital and labor that is required to produce one of the final goods. The shaded area between the two rays is referred to as the cone of diversification. This means that, if the economy's total initial endowment of productive inputs—its stock of capital K and available labor N —falls within this area, one expects this economy to produce both goods. The alternatives are that the economy exclusively produces good A if the initial endowment is to the left of the shaded area or exclusively produces good B if the initial endowment is to the right of the shaded area.

In the case assumed in Figure 4-11, initially—before the arrival of new immigrants—the production of good A employs most of the labor $N_{A,1}$ and capital $K_{A,1}$, leaving only a comparatively small amounts $N_{B,1}$ and $K_{B,1}$ employed in the production of good B. All this changes when the initial work force N is supplemented by the arrival of M new immigrants, causing the initial endowment to shift horizontally to the right. Still, as long as the shift is not large enough to carry the new endowment point outside the cone of diversification, the economy continues to produce both types of goods.

Since both goods are traded on world markets, and at fixed world prices, the amount of each good consumed does not change. What does change is the pattern of this economy's trade with the rest of the world.

Suppose that before the arrival of the immigrants, the economy exported A and imported B. After the arrival of the immigrants, the volume of trade would decline and, if the effect is sufficiently large, one expects a switch toward importing A and exporting B. Alternatively, if initially this economy imported A and exported B, the volume of this trade would increase. To provide a concrete example, suppose the garment industry in this economy is relatively labor intensive. Its domestic garment industry produces less than the total amount of garments consumed and the remainder is imported. The arrival of more labor will reduce the volume of these imports and increase the amount produced domestically.

Of course none of these rather extreme assumptions is particularly representative of the condition of the U.S. economy as it absorbs new workers from abroad. Neither the prices of different goods nor the wages or returns to capital are fixed in global markets, and this simple example abstracts from the way trade can shift production within sectors between different firms. Yet even if the assumptions are mostly unrealistic, the analysis is useful because it captures in a relatively extreme fashion an additional dimension through which immigration alters the U.S. economy: reallocating output between the production of different goods. Adjustment through changes in the mix of goods produced, along with the subsequent changes in both the volume and pattern of international trade, implies less adjustment through factor prices and so will dampen, to some degree, the downward pressure immigration might otherwise exert on wages in the short run.

Of course final goods are not the only things traded—factor inputs including capital are imported and exported. Indeed the very process of international migration represents a flow of the factor input labor between countries and can serve as a substitute for trade in final goods. Workers can produce a good in a foreign country and export it to the United States, driving down both the price of the good paid by U.S. consumers and the wages of their American counterparts. Alternatively they can migrate to the United States and expand domestic production. Qualitatively the effect would be similar. Hence, there is some degree of substitution between international migration and international trade.

Summarizing, firms that use relatively labor-intensive technology benefit more from immigration and respond by increasing production and, hence, their demand for labor. The subsequent change in the economy's output mix is larger the closer the trade ties are between the receiving economy and the rest of the world, and this change further reduces any adverse impact of immigration on wages.

Immigration and Technology

Thus far, the models discussed in this chapter have assumed that the technology for any given firm or industry is fixed and exogenously determined. In reality, technology progresses. Recognition that firms may have a choice of technologies, that the evolution of technology is likely to be influenced by changes in the composition of labor, and that immigrants themselves may hasten the process of technological change leads to an appreciation of additional links between immigration and wages.

Consider the possibility that a good may be produced with either of two technologies. Instead of assuming two different goods as above, Figure 4-11 now models an economy such that A and B represent different technologies.²⁰ Method A is more capital intensive than method B, but if one assumes that wages and the rate of return to capital are determined on world markets, the analysis illustrated by Figure 4-11 does not change. An influx of new immigrants now causes the amount produced using technology B to increase and the amount produced using technology A to decline.

The aggregate amount of capital remains constant as long as its rate of return is determined on global markets, but the amount used by type A firms declines from $K_{A,1}$ to $K_{A,2}$, and the amount used by type B firms increases from $K_{B,1}$ to $K_{B,2}$. The shift in the allocation of capital reinforces the shifts in the allocation of labor, so that even though the total amount of labor in the economy grows, the amount employed by type A firms always declines from $N_{A,1}$ to $N_{A,2}$. Since this case assumes that the labor supplied by natives and by immigrants is identical, one can assume furthermore that all M new immigrants join type B firms. Even so, the number of native workers employed at type B firms increases as well, from $N_{B,1}$ to $N_{B,2}$. Hence, if one assumes the economy is completely open and all the relevant prices, including wages and rates of return are determined on global markets, the economy can still absorb large numbers of immigrant workers by reallocating both capital and labor between the different types of technologies available.

As with the introduction of multiple goods, the introduction of different modes of production for the same good provides an additional channel through which immigration may alter the economy and absorb some of the impact that might otherwise force down wages. In the case analyzed by Lewis (2013), this result extends beyond the two-factor example with only one type of labor to models with multiple types of labor. Namely, an influx of immigrants who supply a particular type of labor once again causes a portion of output to shift toward those firms that employ that labor most intensively. Adding more types of technology increases the range of possible responses of industry to an influx of new immigrants.

²⁰See Trefler's (1998) analysis of the Heckscher-Ohlin model of international trade.

Of course, it is unlikely that the transition between different modes of production is instantaneous. Beaudry and Green (2005) modeled an economy that is gradually transitioning between older and newer, more advanced technologies that rely more heavily on both capital and high-skilled workers. They found that the pace at which the older technology is replaced is determined by the pace at which both physical and human capital accumulate. (Chapter 6 examines the role of human capital in more detail.) An influx of new immigrants alters not only the supply of overall labor relative to capital but also the relative supply of different types of labor, potentially changing the pace of the transition. Another implication of the Beaudry and Green model is that an increase in the number of high-skilled workers may not only lower the wages these workers can command in the market but, in contrast to the analysis in Section 4.4, may also lower the wage of low-skilled workers as well, since capital shifts away from the traditional sector.

It is useful to go a step further, and ask how these different technologies arise. The shifting availability of workers with different levels or types of skill alters the incentives for the development of different types of technology. Hence, an influx of high-skilled workers would spur the development of new technologies that complement the type of labor they supply. Acemoglu (1998, 2002b) raised the possibility that while the arrival of a particular type of worker may lower wages in the short term, the new technologies that develop in response raise these workers' productivity and ameliorate the decline in wages over time.

Indeed under certain conditions, particularly if there is a high degree of substitutability between the different workers in the economy, the long-run labor demand curve will slope upward.²¹ Consider once more an influx of high-skilled immigrants M_S in Figure 4-12 that shifts the supply of labor from $L_{s,1}^S$ to $L_{s,2}^S$. In the initial phase, the wage drops from $w_{s,1}$ to $w_{s,2}$ along the short-run labor demand curve $L_{s,1}^D$. Over time, as new technologies are developed to take advantage of the now more plentiful supply of high-skilled labor, the demand curve shifts out to $L_{s,2}^D$ and wages increase from $w_{s,2}$ to $w_{s,3}$. The long-run demand curve for high-skilled labor is upward sloping.

It is further possible that immigration could speed technological progress for any given skill group if skilled immigrants are themselves innovative or provide entrepreneurial skills complementary to native innovators. This would reinforce the endogenous technological change just described. The theoretical link between immigrants and innovation is considered further in the context of immigration and economic growth in Chapter 6.

Once again, even for relatively small countries most of the assumptions made in the models discussed in this chapter are unrealistic. Even in small

²¹Acemoglu (2002a) used this mechanism to explain why the relative wage of college-educated workers increased even as the supply of these workers grew.

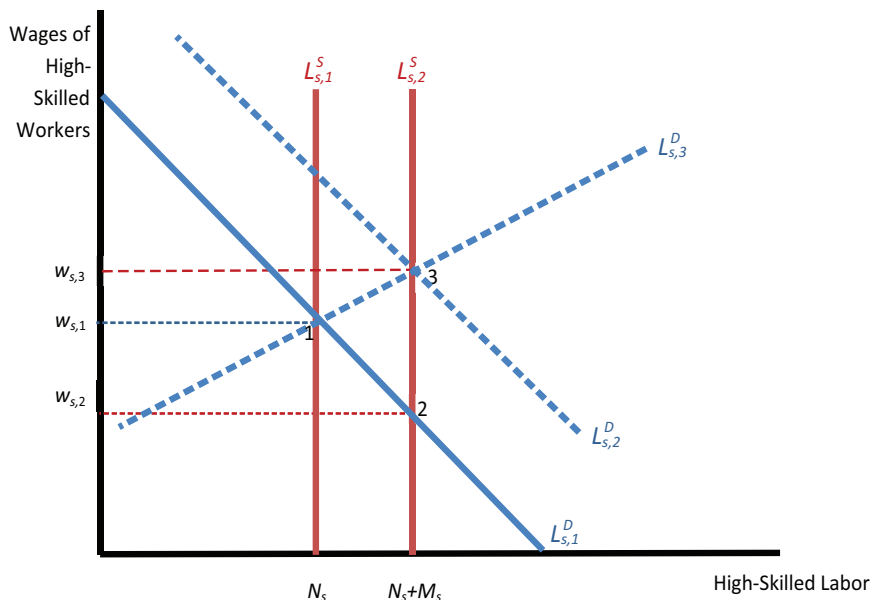


FIGURE 4-12 High-skilled labor market response to an influx of high-skilled immigrant workers (with long-run technological change).

countries, wages and prices are not solely determined on international markets, and to a degree neither is the return to capital. Furthermore, not all goods are tradeable across different countries or even different regions. For a country as large as the United States, with its enormous and relatively autarkic internal market, these assumptions are even less realistic. However, it is important to emphasize that the assumptions for these models have been made to simplify the analysis and to isolate effects that are still likely to exist to some degree, even if none of the assumptions are strictly true in a real economy. What this means is that many of the wage effects described in earlier sections are likely to be diluted by the response of firms (for example, altering the mix of goods and services they produce, shifting between modes of production, or developing new technologies) as the labor supplied by new immigrants is made available in the market.

Summarizing, firms can also respond to immigration by implementing technologies that are complementary to the type of labor immigrants' supply; this is another adjustment mechanism that mitigates adverse wage effects.

4.6 RESPONSES BY NATIVES

Finally, we briefly note that there are other margins of adjustment to immigration that are not related to technology or even firms but also serve to reduce the wage impact of immigration. Of particular importance is that responses by natives may mitigate the wage effects of immigration. Individuals who compete with immigrants may choose to better exploit their comparative advantage in language or to upgrade their human capital. For example, if immigrants are not native speakers of English, immigration changes the comparative advantage of the native-born toward tasks that are more language and communication intensive and encourages them to shift into occupations utilizing these skills. This response mitigates negative wage impacts of immigration (Peri and Sparber, 2009). Furthermore, incentives to increase education are influenced by the wage structure, which is in turn affected by the entry of immigrant workers (Chiswick, 1989; Chiswick et al., 1992). If immigration causes increased wage inequality, younger natives may increase their education in response, mitigating negative wage impacts on the unskilled in the long run. Evidence of these effects is examined in the next chapter.

4.7 THE LINK BETWEEN IMMIGRATION AND FRICTIONAL UNEMPLOYMENT

How does immigration affect the rates of employment or unemployment of native workers? For the case of an elastic labor supply, the influx of immigrant workers in Figure 4-3 initially lowers the wage from w_1 to w_2 , and the amount of work supplied by an average native declines from l_1 to l_2 . Yet this decline in the amount of work performed by natives does not correspond to an increase in the rate of unemployment as economists usually define this term. By the conventional definition, people are considered unemployed if they are willing to work at the prevailing wage but cannot find a firm willing to hire them.

In modern economies there are nearly always some people who are unemployed and, at the same time, some number of firms with vacancies they wish to fill. Over time, as the unemployed fill existing vacancies, others lose or quit their jobs and new people enter the labor market. Similarly, even as some firms die or shrink in size, causing workers to become unemployed, other firms expand or are established, creating new vacancies. Diamond (1982) and Mortensen and Pissarides (1994) constructed models in which this type of frictional unemployment emerges from the behavior of the unemployed searching for new jobs and firms searching for new employees. In these models, an unemployed individual must decide in each period whether to accept a job offer rather than remaining unemployed for

another period, in which case he or she remains available to accept some better job that might be offered in the future.

To date, there are only a few published papers that simulate and analyze the impact of immigration within this search and matching framework. Ortega (2000) analyzed immigration between two countries in a stylized model with only one type of labor. Liu (2010) analyzed the impact of unauthorized low-skilled immigration between 1970 and 2005 on unemployment in the United States. Chassamboulli and Palivos (2014) generalized these two papers and analyzed the impact of immigration between 2000 and 2009 on the U.S. labor market. Finally, Chassamboulli and Peri (2015) analyzed the impact of curtailing illegal immigration from Mexico. What these studies share is the seemingly paradoxical result that although larger immigration flows may generate higher rates of unemployment in some sectors, overall, the rate of unemployment for native workers declines.

In the baseline version of the Chassamboulli and Palivos (2014) model, immigration increased the size of the overall labor force by 6.1 percent over the course of a decade. A slightly larger share of the immigrants had college degrees compared to natives, 28.8 percent versus 27.4 percent. The influx caused a decline of 0.31 percent in the wages of high-skilled native workers and a rise of 0.24 percent in the wages of low-skilled native workers. These results mimic the patterns of change in wages implied by the analysis in Figures 4-8 and 4-9. At the same time, the long-run rate of unemployment simulated by the model dropped as a result of immigration from 6.10 percent to 5.46 percent for low-skilled natives and from 2.40 percent to 2.02 percent for high-skilled natives. Why do both unemployment rates decline?

The explanation is that in all of these search and matching models, searching for new workers is costly for firms. The entry of new workers through migration increases the likelihood of filling a vacant position quickly and thus reduces the net cost of posting new offers. The fact that immigrants in each skill category earn less than natives reinforces this effect. Though immigrants compete with natives for these additional jobs, the overall number of new positions employers choose to create is larger than the number of additional entrants to the labor market. The effect is to lower the unemployment rate and to strengthen the bargaining position of workers. Hence, aggregating across the two skill types, wages for all natives increase by 0.07 percent.

According to the simulations performed by Chassamboulli and Palivos (2014), the new immigrants who arrived between 2000 and 2009 had a particularly large and positive impact on the wages paid to the pre-existing stock of immigrants, whether high or low skilled. This result contradicts much of the empirical literature on wage effects, which generally finds that new immigrants are close substitutes for previous waves of immigrants.

In the simulations performed by Chassamboulli and Peri (2015), a drop of 50 percent in the stock of unauthorized immigrants from Mexico, accomplished by either stricter border enforcement or more deportations, will raise the wages of low-skilled workers by 0.56 percent and lower wages for high-skilled workers by 0.35 percent. At the same time, the removal of these unauthorized immigrants lowers the rate of employment for high-skilled workers from a baseline rate of 87.00 percent to 86.94 percent. The now smaller number of unauthorized immigrants, all assumed to be low skilled, impedes firms' overall incentive to search for these types of workers, causing the employment rate for low-skilled workers to drop from 73.0 percent to 72.4 percent.

What one learns from the papers investigating the effect of immigration on unemployment using search and matching models is that whatever the short-term impact of immigration on unemployment found in empirical studies, it would be wrong to automatically assume that an increase in the flow of new immigrants must necessarily push up the rate of unemployment in the long run. **In short, immigration can lower native unemployment by reducing search costs for employers.**

4.8 CONCLUSIONS

The theoretical models point to many ways in which economic responses by individuals and firms are expected to mitigate the initial impact of immigration on the labor markets of receiving countries. Once immigration changes the relative prices of labor and capital, factor inputs are reallocated across sectors and firms may adjust their technology and output mix to make more intensive use of workers. The existing labor force may also respond by investing in certain skills and upgrading their human capital (as discussed further in Chapter 6). However, theoretical models are at best partial representations of the real-world objects they seek to analyze. For models to be tractable, assumptions are made to ignore certain phenomena or to fix the values of some key economic variables. For example, aggregating across different types of workers and across different types of immigrants and natives necessarily means a loss of detail. Still, a few important insights into the impact of immigration on the receiving economy emerge.

First, the arrival of an unanticipated inflow of immigrants initially affects the economy by changing the wage structure—reducing the wages of those natives most similar to immigrants but possibly raising the wages of other natives—and by increasing the return to capital. Second, the responses of capital and technology mean many, though not all, of these initial changes may be transitory in nature. In the long run, changes in the economy's output mix and the adoption of technology that favors

immigrant labor provide potentially important adjustment mechanisms to mitigate adverse wage effects of immigration. Decisions of natives to move into occupations where they have a comparative advantage or to invest in their human capital may also reduce adverse wage effects.

Third, the arrival of immigrants raises the overall income of the native population that absorbs them: the immigration surplus. This surplus is directly related to the degree to which immigration changes wages and returns to capital. In the simplest models, the more wages decline, the larger the surplus. Moreover, the size of the surplus is likely to be small—far smaller than the effect immigration has on the distribution of income. Immigration enlarges the economy while leaving the native population slightly better off on average, but the greatest beneficiaries of immigration are the immigrants themselves as they avail themselves of opportunities not available to them in their home countries.

5

Employment and Wage Impacts of Immigration: Empirical Evidence

5.1 INTRODUCTION

The primary impact of immigrant inflows to a country is an expansion in the size of its economy, including the labor force. Per capita effects are less predictable: An injection of additional workers into the labor market could negatively impact some people in the pre-existing workforce, native- and foreign-born, while positively impacting others. The wages and employment prospects of many will be unaffected. The direction, magnitude, and distribution of wage and employment effects are determined by the size and speed of the inflow, the comparative skills of foreign-born versus native-born workers and of new arrivals versus earlier immigrant cohorts, and the way other factors of production such as capital adjust to changes in labor supply. Growth in consumer demand (immigrants also buy goods and services), the industry mix and health of the economy, and the nation's labor laws and enforcement policies also come into play.

The primary determinant of how immigration affects wages and employment is the extent to which newly arriving workers substitute for or complement existing workers. As laid out theoretically in Chapter 4, wages may fall in the short run for workers viewed by employers as easily substitutable by immigrants, while wages may rise for individuals whose skills are complemented by new workers. For example, suppose foreign-born construction workers enter the labor market, causing a decrease in construction workers' wages. Firms will respond by hiring more construction workers. Since additional first-line supervisors may be needed to oversee and coordinate the activities of the expanded workforce, the demand

and hence the wages of these complementary workers could receive a boost. On the other hand, where immigrants compete for the same jobs, whether as construction workers or academic mathematicians (Borjas and Doran, 2012), employment opportunities or wages of natives are likely to suffer.¹ Further, where the availability of low-skilled immigrants at lower wages allows businesses to expand, total employment will rise. Wage and employment effects are predicted to be most pronounced in skill groups and sectors where new immigrants are most concentrated.

Given the potential for multiple, differentiated, and sometimes simultaneous effects, economic theory alone is not capable of producing decisive answers about the net impacts of immigration on labor markets over specific periods or episodes. The role and limitations of theory were assessed by Dustmann et al. (2005, p. F324):

Economic theory is well suited to help understand the possible consequences of immigration for receiving economies, and the theoretical aspects of the possible effects of immigration for the receiving economies' labour markets are well understood. That is not to say that predictions of theory are clear-cut, however. It is compatible with economic models that changes in the size or composition of the labour force resulting from immigration could harm the labour market prospects of some native workers; however, it is likewise compatible with theory that immigration even when changing the skill composition of the workforce has no effects on wages and employment of native workers, at least in the long run. Economic models predict that labour market effects of immigration depend most importantly on the structure of the receiving economy, as well as the skill mix of the immigrants, relative to the resident population.

Empirical investigation is therefore needed to estimate the magnitude of responses to immigration by employers, by native-born and earlier-immigrant workers and households, by investors, by the public sector, and in housing and consumer-goods markets (Longhi et al., 2008, p. 1). Dynamic conceptual approaches are needed to assess some of the impacts of immigration, particularly those that require long periods of time to unfold.

In the context of the U.S. experience, immigrants have historically been most heavily represented in low-skilled occupations. This has prompted an extensive body of empirical work investigating whether immigration has had a negative effect on the wages and employment of low-skilled

¹Detailed discussion of when immigrant labor complements and when it substitutes for native employment can be found in Fogel and Peri (2014) who analyzed relative employment effects using longitudinal employer-employee data for Denmark covering the period 1991-2008. Mouw et al. (2012) and Rho (2014) also examined this question using evidence from the Census Bureau's Longitudinal Employer Household Data on worker displacement in high-immigration industries.

natives and earlier immigrants. However, a substantial and growing share of immigrants is highly skilled. In part because of this change—and also because of the possibility of positive spillovers from the highly skilled to other workers and to the economy more generally—this group is receiving increased attention. The panel’s summary of the literature in this chapter reviews both these strands of research: After reviewing the pivotal influence of substitutability among different labor inputs in Section 5.2, the focus of Sections 5.3 and 5.4 is predominantly on empirical analyses of low-skilled markets. Section 5.5 reports on a cross-study comparison of the magnitude of immigrants’ impacts on wages. Section 5.6 examines some of the research findings about the highly skilled, including the impact of immigration on innovation.

Given the complexity of mechanisms through which immigration shapes the economy, it is not surprising that the empirical literature has produced a range of wage and employment impact estimates. The basic challenge to overcome in empirical work is that, while wages before and after immigration can be observed, the counterfactual—*what the wage change would have been if immigration had not occurred*—cannot. A range of techniques has been used in the construction of this counterfactual, and all require assumptions to facilitate causal inference (i.e., identifying assumptions). The different approaches can be judged in part by the plausibility of these assumptions.

The panel has organized this review of empirical studies primarily in terms of methodological approach, using three labels common in this literature. We first describe and present results from *spatial* studies, which compare worker outcomes across geographic areas. Next, we review results from analyses that use aggregate (nationwide) data, including *skill cell* studies, which compare worker outcomes across groups defined to have similar education and experience, and *structural* studies, which implement the skill cell approach with a closer connection between theory and empirical estimation. Much of the discussion in these sections is concentrated on studies of the overall labor market and the low-skilled labor market. Later in the chapter, we turn our attention to evidence about high-skilled labor markets, including the effect of skilled immigration on innovation and entrepreneurship.

Spatial studies define subnational labor markets—frequently, these are metropolitan areas—and then compare changes in wage or employment levels for those with high and those with low levels of immigrant penetration, controlling for a range of additional factors that make some destination locations more attractive than others. As immigrants are likely to settle in those metropolitan areas that have experienced positive economic shocks, econometric methods are used to identify spatial variation in immigrant penetration that can be considered “exogenous”—that is, not determined

within the system being studied—with respect to the outcome that is modeled, which is typically the wages or employment of native-born workers. To illustrate, suppose an analyst is interested in identifying the impact of immigration on wages of the native-born in local labor markets. If immigrants settle predominantly in areas that experience the highest wage growth, then this will induce spurious correlation contaminating estimates of the causal effect of immigration; wage growth (or dampened wage decline) will be erroneously attributed to the increase in labor supply. An econometric solution to this problem presents itself if immigrants choose areas not just on the basis of economic conditions but also on the basis of non-economic factors, such as proximity to others with similar backgrounds. These non-economic factors can help the analyst create variation in immigrant penetration that is independent of wage growth and that is not correlated with unobserved factors that determine wage growth. A subset of these studies has obtained identification by taking advantage of “natural experiments” created by unusual immigration events, such as the Mariel boatlift injection of more than 100,000 Cuban workers into the Miami labor market in 1980 (Borjas, 2016b; Card, 1990; Peri and Yasenov, 2015).

Another potential problem with the spatial approach, noted by Borjas (2014a), is that natives may react to an influx of immigrants by leaving affected areas, thus dissipating the labor market impacts of migration across the national economy. However, whether such responses by natives are indeed an empirical problem is controversial in the literature on immigrant inflows and native outflows (the panel considers this issue below in the review of research, e.g., Borjas, 2006; Card, 2001; Card and DiNardo, 2000; Kritz and Gurak, 2001). A more intractable problem with the spatial approach, also noted by Borjas (2014a), is that trade in goods between locales or movement of capital can also work to disperse the impacts of immigration nationally. In fact, an important insight of economic theory is that **flows across localities, whether in labor, capital, or goods, will tend to diffuse the impact of immigration across the national economy**, potentially making spatial comparisons less informative. To the extent that existing spatial studies have not been able to address all possible mechanisms through which local labor markets adjust, it is possible that they underestimate any impact of immigration on labor market outcomes at the national level. At the same time, economic theory also implies that domestic impacts of immigrant inflows are reduced to the extent that the United States trades with the rest of the world and that capital flows into and out of the United States (see Chapter 4).²

²The extent to which trade serves to reduce the effect of immigration on an individual *country* has received attention theoretically, and these insights may apply to cross-city analyses. The classic factor price equalization model (Samuelson, 1948) holds that, if a country produces

As noted previously, the second broad category of research reviewed in this chapter focuses on aggregate (national level) data and entails dividing labor markets by skill, typically defined by years of education and experience. Borjas (2003) pioneered both the skill cell and structural approaches that comprise this line of work. In the skill cell approach, estimation relies on variation, not between geographical areas as is done in spatial analyses but between skill groups. The idea is to relate differences in immigrant inflows across the range of skill cells to differences in wage outcomes of native-born workers—just as the spatial approach relates differences in immigrant inflows across places to differences in wage growth. The drawback of this approach is that it does not estimate the entire impact of immigration. While it captures the effect on native-born workers of immigrants who have similar skills, it does not capture the effect on the native-born of immigrants who have dissimilar skills. It is unknown whether omission of these cross-group effects leads to an overestimation or underestimation of the wage impact of immigrants.

The structural approach involves assuming a particular production function describing the relationship between output and inputs (the factors of production), estimating the parameters that characterize the production technology (most notably the elasticities of substitution between factors of production), and then simulating the impact of changes in labor supply on relative wages of, say, native-born workers based on the estimated parameters and the assumed functional form of the production function.³ While, as noted earlier, all empirical approaches require identifying assumptions, structural models require particularly strong assumptions, and some of those assumptions build in specific numerical answers for the wage impact. Apart from the functional form assumptions for the production technology, as detailed in Section 5.3, results may be sensitive to assumptions about the feasibility and extent to which different inputs, such as more- and less-skilled workers or immigrants and native-born, may be substituted for one another. These assumptions are, however, necessary to reduce the dimensionality of these models in a way that makes them tractable.

Another issue for a structural approach is that predictions based on these models ignore general equilibrium effects, such as how different kinds

multiple goods that are each traded internationally, changes in relative supplies of labor of varying skills within that country need not have any effect on the relative wages by skill level within that country, provided the country is small relative to the rest of the world. On the other and, shifts in labor supplies by skill, say due to immigration, may affect relative wages if there is a significant nontraded sector or if a country specializes in one traded good (Dustmann et al., 2005; Kuhn and Wooton, 1991; Samuelson, 1948). See Blau and Kahn (2015) and Borjas (2014a) for a more extended discussion.

³See Borjas (2014a, p. 106 ff.) for a thorough description of the constant elasticity of substitution (CES) structural modeling framework that is used in this literature.

of workers interact with each other and how investment, consumption, and other responses in the economy play out. Finally, this approach, like the skill cell approach, assumes that the analyst is able to assign immigrants and native-born workers to cells within which their education and potential labor market experience are equivalent (see Dustmann and Preston, 2012).

Not all studies fall neatly into the taxonomy described above. Both spatial analyses and aggregate skill cell and production function studies may divide workers into skill groups, and a spatial study by Peri et al. (2015a) uses city-specific production functions to estimate total factor productivity growth of U.S. cities attributable to the addition of foreign-born science, technology, engineering, and mathematics (STEM) workers. Borjas (2014a, p. 127) prescribes a strategy for future research that would combine the findings from spatial approaches—where average wage effects are estimated directly from the data—with the restrictions implied by factor demand theory to estimate cross-group effects. Though there may be some overlap and gray areas across approaches, the panel follows this categorical organization in the detailed discussion below of empirical results and then considers the lessons derived from the literature in the concluding discussion (Section 5.7).

5.2 SOME BASIC CONCEPTUAL AND EMPIRICAL ISSUES

The foregoing discussion of economists' approaches to analyzing the impact of immigration, as well as the Chapter 4 description of relevant theory, highlights the importance of some basic concepts in determining the effect immigrants may have on native-born workers. In particular, it is clear from a theoretical perspective that the expected impact of immigration is larger in the short run than in the long run, at least if the immigration is unanticipated. In addition, whether immigrants are substitutable for natives (and how closely) or complementary with them is important for determining the direction (negative or positive) as well as the magnitude of the immigrant effects. While the theoretical concepts are reasonably clear, empirically testing them is less so. Below, the panel considers some of the empirical issues that have arisen.

The Short Run Versus the Long Run

The standard distinction between the short run and the long run in microeconomic theory is that in the short run the capital stock is fixed and cannot adjust to changes in the demand for capital. Meanwhile, in the long run, capital is completely variable and adjusts fully to changes in demand for it. With immigration, the return to capital initially rises then falls over the adjustment period, eventually returning to its original level.

Macroeconomic theory further distinguishes between a short run in which technology and education (human capital) of workers are fixed and a long run in which they adapt to changing economic circumstances. This latter conception of the long run is the focus of the panel's discussion of immigration in an endogenous growth context in Chapter 6.

These distinctions are murkier in the real world, since these concepts do not map one-to-one with time periods of specific, consistent length. One guide to the speed at which capital adjusts is a study by Gilchrist and Williams (2004) showing that in (West) Germany and Japan, both of which suffered a large loss of capital during World War II and large population inflows immediately afterwards, the return to capital fell to world levels by the 1960s. This suggests that, for U.S. immigration purposes, capital is likely to adjust fully in considerably less than 20 years and in some cases may even be built up in anticipation of immigration. In studies of the United States, Lewis (2011a) found immigration-induced changes in the adoption of manufacturing automation equipment in a 5-year span from 1988 to 1993, while Beaudry et al. (2010) found immigration-induced changes in the adoption of computers between 1990 and 2000. These studies show that there is at least some adjustment of U.S. capital and possibly technology over 5-10 years, though it is unknown whether the adjustment observed was complete. Moreover, it might be argued that the notion of complete adjustment in the face of ongoing immigration is not clearly defined, in that there is no theory and little empirical evidence on the effect of anticipated immigration on firm behavior.

Among the various approaches reviewed in this chapter, the structural approach deals most explicitly with the distinction between the short and long run. Though the structural models are static and do not model changes over time, they yield separate short- and long-run estimates of the impact of immigration based on explicit assumptions regarding the elasticity of the supply of capital. However, technology is held fixed, and the response of worker human capital is not dealt with explicitly. Results from the spatial approach and the simple skill cell approach are more difficult to characterize along a time dimension. Presumably, estimating the effects of a large, sudden, unanticipated increase in immigration—as occurred with the Mariel boatlift—in the year or two following the inflows captures the short-run effect of immigration. More generally, the estimated effect depends on the spacing of data (e.g., decennial or yearly), the exact specification of the regressions, and the timing of immigrant inflows between the observation points; certain specifications could reflect a mixture of short- and long-run effects (Baker et al., 1999). While the panel acknowledges these ambiguities, we follow an extensive literature in continuing to use the terms “short run” and “long run,” and we grapple with the distinction as it arises in our discussion of differences in magnitudes across studies in Section 5.5.

Substitution Between Inputs and Issues in Defining Skill Groups

Economic theory points to the importance of substitutability and, conversely, complementarity between different kinds of workers in determining the impact of immigration on the wages and employment of natives.⁴ Where immigrants and natives are substitutes, adverse wage and employment effects may result; the more closely immigrants' skills and abilities match those of natives, the more adverse these effects are expected to be. This raises the issue of how empirical researchers measure skill and identify groups that are potentially in competition, as well as how they model the extent of substitutability between them. Thus, we consider these issues before delving into the empirical findings on the impact of immigrant inflows on natives and prior immigrants.

Substitutability between two groups—say native workers (N) and immigrant workers (I)—is measured by the *elasticity of substitution*. The elasticity of substitution between natives and immigrants gives the percentage change in the ratio of immigrant workers to native workers (I/N) employed in response to a given percentage change in the wages of natives relative to immigrants (w_N/w_I). So, for example, an elasticity of 2 would indicate that an increase of 1 percent in the wage of natives relative to immigrants would result in an increase of 2 percent in the ratio of immigrants to native workers employed. A very high value of this elasticity implies that as the relative wage of natives rises (so natives become more expensive compared to immigrants), employers would make a more sizable switch to hiring immigrant workers—suggesting that it would be easier to make the switch. A low value of the elasticity would suggest that a similar rise in the relative wage of natives would not lead to a very large increase in the relative number of immigrants employed, suggesting that employers find it difficult to replace natives with the immigrants. If the elasticity were equal to zero, a rise in the relative wage of natives would not change the number of immigrants employed at all, suggesting that employers find it impossible to replace natives with immigrants because the two groups are not substitutable.

Substitutes may be divided into *perfect substitutes* and *imperfect substitutes*. Two groups of workers that are perfect substitutes are so nearly identical for purposes of production that an employer will be indifferent between hiring a worker from one group or the productivity equivalent number of workers from the other. One somewhat confusing aspect of this terminology is that one might be tempted to assume that perfect substitutes

⁴For simplicity and also due to policy concerns, the panel frequently refers to immigrant versus native-born workers. In reality, immigrant inflows may affect the wages not only of natives but of earlier immigrants as well. Some studies have looked explicitly at the impacts of new flows of immigrants on earlier immigrants, as well as on the native-born.

are equally productive—but that need not be the case. As long as the two groups’ relative wages reflect any productivity difference between them, employers will be indifferent between hiring one or the other. The elasticity of substitution between perfect substitutes is infinite. In such a case, if the relative wage of one group were to rise, the employer would shift entirely to the other group. Imperfect substitutes are, as the name implies, substitutable in the eyes of employers but not perfectly so. The magnitude of the elasticity indicates how closely substitutable the two groups are.

In implementing this concept of substitutability, an issue that arises is how to define skill groups. As we have noted, the large representation of less-educated individuals among immigrant inflows into the United States has focused attention of researchers on the wage and employment consequences of this inflow for less-skilled natives. But how is skill to be measured? This question arises across all the approaches this report surveys and has been answered in various ways. No approach is free from some level of disagreement about this issue. In general, studies employing the spatial methodology have used education level as the metric of skill (e.g., Card, 2005), although in a few cases occupations have been used to distinguish skill groups (Card, 2001; Orrenius and Zavodny, 2007). Aggregate skill cell and production function studies generally define skill by taking into account both experience (using age as a proxy) and education to form experience-education cells (e.g., Borjas, 2003). Finally, a recent alternative for defining skill in a way that groups immigrants and natives who are competing in the labor market assumes that two individuals with the same percentile ranking in the wage distribution are viewed as close substitutes in the eyes of employers; Dustmann et al. (2013) applied this approach for the United Kingdom.

One issue that has arisen in spatial studies, as well as in aggregate production function analyses, is how to delineate educational categories. Often, four educational categories are created: (1) did not complete high school, (2) completed high school only, (3) some college, and (4) completed college. Sometimes (e.g., Borjas, 2003, 2014a) the “completed college” group is further divided into college graduates and postgraduates, yielding five categories. Some research has focused on a subset of categories—for example, examining how the inflow of low-skilled immigrants affects the wages of low-skilled natives. Recently, however, questions have been raised as to whether each educational category should be viewed as a separate factor (that is, as imperfect substitutes). Based both on his review of recent aggregate time series studies and his own analysis of spatial data, Card (2009) argued that evidence supports the conclusion that high school dropouts are essentially perfect substitutes for high school graduates. In a production function context, Ottaviano and Peri (2012) also combined the two groups, providing evidence from their data that the elasticity of

substitution is quite high, even infinite in some estimates. The treatment of these two educational categories can have significant implications. As Card (2009) pointed out, immigrants have a much higher share of high school dropouts than natives, but a fairly similar share of “high school equivalent” workers (dropouts and graduates combined, accounting for differences in productivity). Thus, the change in the skill distribution caused by an inflow of immigrants, and the resulting impact of immigration on relative wages, is smaller if the high school dropout and high school graduate categories are aggregated.⁵ However, aggregating the two groups is not without controversy. Borjas et al. (2012), in particular, take issue with the justification for doing so, namely the evidence on the elasticity of substitution.

The second issue of importance is whether immigrants and natives *within* skill groups are perfect substitutes. This issue is potentially quite important in that, for cases in which natives and immigrants are imperfect substitutes, any negative wage effects resulting from immigrant inflows will be more concentrated on previous immigrants, who are usually the closest substitutes for new immigrants, lessening the adverse impact on natives.⁶

Various research findings lend support to the notion that immigrants are imperfect substitutes for natives with similar *measured* characteristics.⁷ Chiswick (1978) found a lower return to experience and education among new immigrants than among natives—with this experience and education presumably primarily acquired abroad. In line with Chiswick’s findings, Blau and Kahn (2015) found, for a sample of newly legalized immigrants, that education acquired abroad had a lower return than education acquired in the United States, while Akee and Yuksel (2008) found that the gap between the return to foreign versus U.S. experience is larger than that for foreign versus U.S. education. “Downgrading”⁸ of immigrant skills is also suggested by Akresh’s (2006) finding that, in comparing the jobs immigrants held prior to and after migrating, they typically experienced downward occupational mobility. Also relevant is Kossoudji and Cobb-Clark’s (2000) evidence of occupational upgrading of immigrants upon legalization, which suggests downgrading of unauthorized immigrants skills relative to native-born workers. Blau and Kahn (2007a) reported higher unemployment rates of Mexican immigrants (the largest single group of immigrants) relative to native-born workers with similar age and education—again suggest-

⁵Card (2009) advocated the formation of just two skill groups: high school equivalent and college equivalent labor. This two-group structure has frequently been used in recent aggregate time series studies.

⁶See Card (2009) for a discussion; he pointed out that the difference between a large but finite elasticity of substitution and perfect substitution can be quantitatively quite important.

⁷Most of this paragraph is drawn from Blau and Kahn (2015).

⁸This is the term used by Dustmann et al. (2013).

ing imperfect substitution between the two groups. Finally, evidence from Smith (2012) that an inflow of immigrants with a high school degree or less reduced the employment (measured in hours worked) of native teens suggests that newly arrived adult immigrants may be closer substitutes to native teens than to their adult counterparts.⁹

Other work highlights the role of English-language fluency, a factor largely unaccounted for in aggregate analyses, in producing imperfect substitutability between immigrants and native-born with similar observed characteristics. Using census data on immigrant-native wage gaps for immigrants who were fluent compared with immigrants with no English, Lewis (2011b) analyzed how native-immigrant differences in language skills contribute to occupational specialization. He found that native-born workers are more represented in occupations where communication is important, which suggests that within education level, immigrants and natives may be imperfect substitutes. As the length of time spent by immigrants in the United States increases, their English improves and immigrants and native-born with comparable education become closer substitutes. In a similar vein, Somerville and Sumption (2009) found that immigrant concentration in particular industries induces natives to shift into higher paying industries where language and other native skills come into play. Likewise, Peri and Sparber (2011) investigated the role of communication skills in producing immigrant/native-born differences in occupations requiring graduate degrees. They found that the foreign-born specialize in fields demanding quantitative and analytical skills and the native-born specialize in fields where interactive and communication skills are highly valued.

Additional evidence suggesting imperfect substitution between immigrants and the native-born was provided by Ottaviano and Peri (2012). Using a structural production function approach, they estimated substitution elasticities, whose values indicate that immigrants and natives were imperfect substitutes within the typical categories used, especially among the less skilled. The production function approach they employed enabled them to take this imperfect substitutability into account in estimating wage effects. Borjas et al. (2012) challenged these findings and presented evidence that the results are sensitive to assumptions made in the estimation process.¹⁰ Moreover, while Dustmann and Preston (2012) agreed that the usual approach groups together dissimilar immigrants and natives, they

⁹Orrenius and Zavodny (2008) found a similar result: Minimum wage increases resulted in higher employment rates among adult immigrants while rates fell for native-born teens. The evidence therefore suggests employers switched to older foreign-born workers in lieu of native-born teens once labor costs rose.

¹⁰Borjas et al. (2012) found, for example, that the inclusion of fixed effects eliminates the finding that comparably skilled immigrants and natives are imperfect substitutes.

also took issue with Ottaviano and Peri's (2012) method of addressing the problem.¹¹

Spatial studies potentially have methods for handling imperfect substitutability between immigrants and natives as well. As an example, Altonji and Card (1991) estimated the link between the fraction of immigrants in the population and the wages and employment of less-skilled natives. Their specification allows any impact that immigrants with higher observable skills may have on the low-skilled native group (due to the immigrants' imperfect substitution with higher-skilled natives) to be captured as well. It is also possible to build in adjustments to realign the way new arrivals are sorted into skill cells in these models. Orrenius and Zavodny (2007) examined the impact of immigrant penetration separately by occupational category, to allow immigrant substitutability to differ by skill. They argued that substitutability of immigrants for natives should be greater for less-skilled occupations and found results consistent with this hypothesis. In contrast, in their production function study referenced above, Ottaviano and Peri (2012) hypothesized, and found evidence, that among the highly educated, foreign-born workers are more highly substitutable for native-born workers. While these results differ, both studies found evidence of imperfect substitutability between immigrants and natives that appears to differ by skill level.

Other evidence supportive of imperfect substitutability between immigrants and natives comes from studies examining the impact of immigrant inflows on natives and prior immigrants separately. The idea here is that, if immigrants and natives are imperfect substitutes, the impact of immigrant inflows on prior immigrants should be larger than on the native-born, since immigrants are likely to be closer substitutes for each other than for natives. Many studies focus only on the native-born component of the pre-existing workforce, but when both groups are examined, larger negative wage and employment effects for previous immigrants than for the native-born are generally found (e.g., Card, 2001; Ottaviano and Peri, 2012).

Support for the view that immigrants downgrade upon arrival comes from the study noted above by Dustmann et al. (2013) for the United Kingdom. Although immigrants to the United Kingdom have typically had

¹¹Specifically, Dustmann and Preston (2012) argued that a key assumption in the Ottaviano and Peri (2012) approach is that immigrants and natives can be allocated to age-education cells within which their potential experience and education are comparable. This may, however, not be the case, as immigrants may—at least initially—downgrade, which means they compete with natives in segments of the labor market other than where one would expect them based on their observed education and potential experience. This will cause a bias in the estimates of the elasticity of substitution between immigrants and natives. Due to downgrading, immigrants and natives may appear to be imperfect substitutes even though, if correctly classified, they are not.

more education on average than native-born workers, they have fallen disproportionately at the lower end of the wage distribution. This finding, the authors claimed, has serious consequences for approaches that rely on pre-assigning immigrants to skill cells based on their observed age and education, within which they are assumed to be equivalent in production to natives.

Data from the Current Population Survey (CPS) indicate that downgrading is also an issue in the United States, although to a lesser extent. Figure 5-1 (from Dustmann and Preston, 2012) shows the predicted position, based on age and years of schooling, and the actual position of recent immigrants relative to the native-born wage distribution. The short-dashed line in the graph (labeled “actual”) indicates that recent immigrant workers are more concentrated in the lower quintiles and less concentrated in the

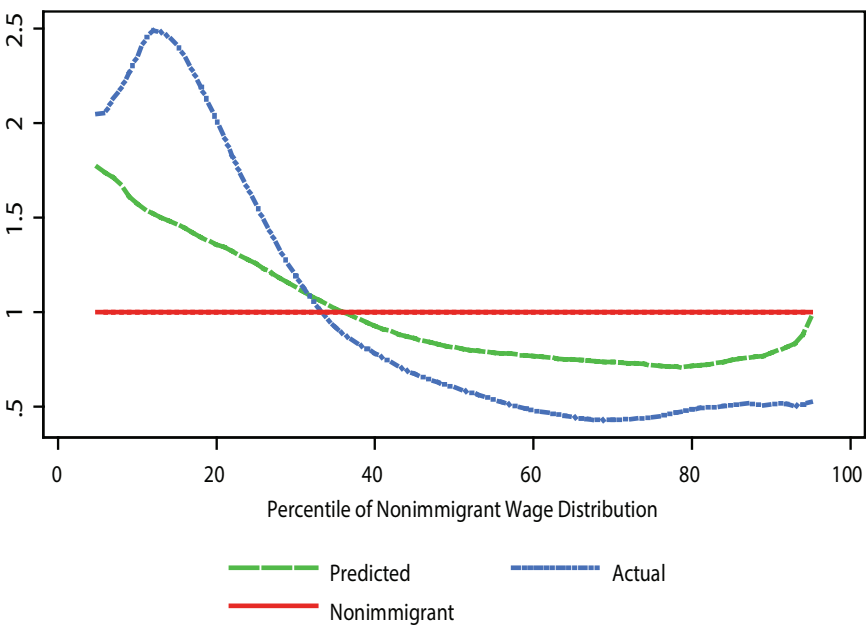


FIGURE 5-1 Predicted and actual position of recent immigrants (less than 2 years in the United States) in the wage distribution.

NOTE: The vertical axis represents densities—the continuous equivalent of probabilities. One can interpret the vertical axis as giving the probability of immigrant workers being in one specific percentile of the native wage distribution. The curve labeled “actual,” then, is not the probability of being in a given wage percentile relative to natives but rather the probability of being in a given percentile of the native wage distribution.

SOURCES: Dustmann and Preston (2012, Fig. 1b, p. 222). Original graphic based on Current Population Survey data, 1997 to 2007.

higher quintiles of the native wage distribution than would be predicted by their age and education profiles (the horizontal line is the reference indicating the nonimmigrant wage distribution; the long-dashed line is where one would predict immigrants to be located along the distribution of native wages if they received the same return on labor for their observed education and experience as natives did). Elsewhere in their paper, Dustmann and Preston (2012) showed that downgrading is strongest just after arrival (the period reflected in the graph); they found that over time, immigrants to the United Kingdom catch up to the occupations and wage levels predicted by their education.

Based on observations like these, Dustmann et al. (2013) argued against estimators that require the preallocation of immigrants to skill groups, arguing that this may not lead to meaningful estimates because immigrants may compete with native-born workers at other parts of the skill distribution than those to which one would assign them based on observed characteristics. Using a spatial approach, they proposed an estimator that does not rely on preallocation of immigrants to skill groups but instead regresses skill-group-specific native wages (in their approach, defined as percentiles of the wage distribution) on the overall inflow of immigrants. The resulting estimates have a straightforward interpretation and are not affected by downgrading.

While there is indeed suggestive evidence that immigrants and natives may be imperfect substitutes within skill groups defined by measured characteristics, there remains controversy regarding whether this is an important issue for empirical analyses and how it should be dealt with. The panel considers this issue further, along with the appropriateness of aggregating high school dropouts and high school graduates, in the context of the studies reviewed below.

5.3 SPATIAL (CROSS-AREA) STUDIES

In the pioneering work by Grossman (1982) on the “substitutability of immigrants and natives in production”—a paper that influenced much of the subsequent research—labor market boundaries were defined as metropolitan areas. Intuitively, since immigrants choose some destinations with greater frequency than others, comparing wage and employment trends across metropolitan areas should yield evidence about the impact of their arrival. As described above, the methodology involves testing whether native wage growth and employment rates in the high-immigration areas are lower than those in the low-immigration areas.¹² The earliest studies relied solely on cross-sectional variation, while later work, beginning notably with Altonji

¹²Card (2005) describes the spatial approach in detail.

and Card (1991) and including most of the studies summarized here, recognized and attempted to deal directly with the endogeneity problem inherent in this approach: The magnitude of immigrant flows into an area is likely to be correlated with its economic vitality and wage growth.

Studies relying on geographic labor market variation are listed and compared in Section 5.8, Table 5-3. In considering the results of these studies, a useful starting point is the assessment of evidence presented 20 years ago in *The New Americans* (National Research Council, 1997). For the literature surveyed in that report, with the exception of Altonji and Card (1991), the estimated coefficient indicating the sensitivity of native-born wages to an increase in immigrants in a given local labor market was closely clustered around zero. *The New Americans* reported:

The evidence also indicates that the numerically weak relationship between native wages and immigration is observed across all types of native workers, white and black, skilled and unskilled, male and female. The one group that appears to suffer significant negative effects from new immigrants is earlier waves of immigrants, according to many studies. (National Research Council, 1997, p. 223)

As documented below, however, continued study of this issue over the past two decades has led to greater variation and detail in estimates of the wage impacts of immigration obtained from the local labor market approach.

Comparing the experiences of high-immigration and low-immigration geographic areas has a great deal of intuitive appeal. The concept is easy to understand. Blau and Kahn (2015, p. 813) outlined the advantages of the approach:

... the empirical work directly ties the key explanatory variable, immigration, to the outcomes of interest. No assumptions about how labor and other inputs combine in production processes need be made. In particular, one need not assume or try to estimate the degree to which immigrants and natives of equal observed skills substitute for each other, although such a relationship will influence the parameter estimates. In addition, using the area approach will provide more potential observations than using national aggregates, producing more efficient estimates.

The analytic challenges to spatial studies have to do with the endogenous factor flows and trade flows that potentially bias the estimates of cross-area wage differentials.¹³ Borjas (2014a), Blau and Kahn (2015), and

¹³This is also an issue for aggregate skill cell and production function models, discussed in Section 5.4, albeit possibly a lesser one. As explained by Lull (2015), immigrants to the United States do not display random experience levels (ages) and education.

others, as noted below, identified these challenges: (1) Immigrant flows are not randomly distributed across metropolitan area labor markets. As noted above, new arrivals are likely to select areas at least near those that are thriving economically¹⁴—that is, those experiencing wage and employment growth (e.g., California or Florida in the mid-to-late 1990s). This area-selection bias creates spurious, positive correlations between immigration to an area and that area's employment conditions and relative wages. (2) Local labor markets are not closed, which means that natives (or earlier immigrants) are free to relocate their labor (and capital), which may at least partially equilibrate prices and quantities across markets defined by geographic areas. As possible evidence of this problem, Borjas et al. (1997) showed that, for the 1980-1990 period, the correlation between inflows of low-skilled immigrants and the wages of low-skilled natives was more negative, the larger the geographical area demarcated (regions versus states or states versus metropolitan areas). Similarly, Borjas (2003) included analyses by geographical areas (i.e., states) that reveal smaller negative effects on a skill group's earnings from an immigrant inflow than did the national level estimates. (3) Trade in goods between areas will tend to equalize factor prices, including wages, across areas, in a process known as factor price equalization. Finally, models for which the key independent variable (immigration) is measured for small geographic areas with small samples are susceptible to measurement errors, greatly attenuating the measured impact of immigration (Aydemir and Borjas, 2007).

Endogeneity of Change in Immigrant Share and Labor Market Performance

The above complications associated with estimating cross-area wage and employment effects make it difficult to establish causal links. Regarding the endogeneity challenge, the question is: To what extent do immigrant inflows affect wages and employment and to what extent do wage and employment conditions influence immigrant inflows? Either could explain an observed correlation, and both probably occur to some degree in any given case. Indeed, Cadena and Kovak (2016) showed that low-skilled immigrants have settled in those cities that offer the highest wages, leading to a positive correlation between wage growth and immigrants' location decisions. If new arrivals migrate to strong economies that are already experiencing high or rising wages, measured negative effects of immigration

¹⁴Mainly due to housing, immigrants are often priced out of the most economically thriving neighborhoods within a metropolitan area (Saiz, 2008). For this reason, analyses at, for example, the census tract level may produce quite different results from those at the Metropolitan Statistical Area (MSA) or state level.

will be understated unless this counterbalancing influence is accounted for. Conversely, immigration may decline in response to relatively slow wage growth in areas that are economically depressed. Monras (2015) found that, during the Great Recession, “fewer people migrated into the locations that suffered more from the crisis.” This relative shrinking of the labor supply in the most hard-hit metropolitan areas would have alleviated some of the negative wage effects associated with the crisis by spreading the local recession shocks across regions or nationally.

As noted above, this endogeneity problem may be overcome by isolating the variation in immigrant inflows across areas that is neither determined by outcome variables (such as area wages) nor affected by the same unobserved factors that influence wages. The common approach to doing this is to find a variable (or a set of variables) that (1) is correlated with the inflow of immigrants to an area, but (2) is not correlated with factors that determine the growth of wages, other than through the inflow of immigrants. Such variables are called “instrumental variables” (IVs) or just “instruments.” While (1) is an empirical question, and can be tested, (2) is untestable and has to rely on the plausibility of the assumptions under which it is valid. The quality of the study depends therefore on the degree to which the assumptions underlying (2)—called exclusion restrictions—are plausible.

It can be difficult to find instruments that are highly correlated with the inflow of foreign-born workers into a local labor market yet uncorrelated with the other factors that determine wages or job growth in that area. The most common IV strategy, introduced by Altonji and Card (1991) and further developed by Card (2001), relies on the observation that immigrants tend to locate where there are already settlements of their co-nationals (see Bartel, 1989). Reasons suggested for this tendency include the possibility of drawing on preexisting networks, informational advantages, and access to cultural goods that are difficult to obtain without access to co-nationals. While past concentrations of individuals from one’s own country are likely to be correlated with future inflows to a particular area, they are at the same time unlikely to be correlated with future area-specific shocks that affect wages and employment. Based on this line of reasoning, the approach then allocates the overall inflow of immigrants from a particular country to spatial areas based on historical settlement patterns. For example, suppose the United States consisted of a Southern part and a Northern part only; assume further that, in 1980, 10 percent of all immigrants from Mexico lived in the North, while 90 percent lived in the South. Now suppose that 100,000 Mexicans arrived between 1999 and 2000. Based on the historical settlement pattern in 1980, this approach would assign 10,000 to the North and 90,000 to the South. Doing the same assignment process for all immigrant groups and summing up for each region results in an estimate

of the area-specific inflow of immigrants between 1999 and 2000 that is solely based on historical settlement patterns and is unlikely to be correlated with contemporaneous (i.e., 1999-2000) area-specific shocks to wages and employment.

One possible problem with this approach is that economic characteristics that initially made an area attractive to immigrants may persist over time. For example, if traits of the economy driving both economic growth and migration in gateway locations such as California or New York have systematically differed from other regions over many years, the downward impact of immigration on wages may still be masked. However, as Blau and Kahn (2015) noted, the finding by Blanchard and Katz (1992) that the wage effects of local employment shocks die out within 10 years provides some support for the interval, employed in most of these studies in the construction of the instrument, of 10 or more years between the previous immigrant concentrations used to derive the allocation and the current inflows.¹⁵

Due to concerns about whether local labor market conditions during the analysis period are, or are not, directly related to conditions for the period from which the instrument is constructed, researchers have begun exploring alternative instruments. For example, an IV constructed to deal with endogeneity of location choices may be based on a characteristic such as the distance between origin and destination countries. In a skill cell study based on cross-national comparisons, Llull (2013, p. 2) used variation in “push factors . . . interacted with distance to the destination country in order to construct an instrument based on variation over time and across destination countries.” So, for example, violence in Guatemala would be expected to increase migration to Mexico or the United States at a greater rate than to Europe. Llull further broke out variation by skill level, based on the assumption that destination choices will be more constrained for low-skilled workers because, compared with high-skilled workers, they have fewer resources to travel long distances.

Native Response to Immigration, Trade, and Technology Adjustments

Mobility of labor, capital, and goods between areas gives rise to a second analytic challenge for spatial studies. Cities and states are not closed economies, meaning that labor and capital flow from one to another, and these flows have the capacity to equalize prices.¹⁶ If immigrants were to

¹⁵Borjas et al. (1997) attempted to address this issue by controlling for pre-existing population trends. See also Dustmann et al. (2005) for the United Kingdom.

¹⁶Price equalization pressure would also happen in the presence of trade even if labor and capital were immobile—see below and the theory discussion in Chapter 4. This is important because sometimes papers find that labor is not that mobile and mistakenly conclude that therefore prices are not equalizing.

arrive in disproportionate numbers in a city (or neighborhood, or whatever spatial unit defines the labor market), it is possible that some workers previously there may respond by moving elsewhere, which would diffuse the downward pressure on wages across cities:

... natives may respond to the wage impact of immigration on a local labor market by moving their labor or capital to other cities. These factor flows would re-equilibrate the market. As a result, a comparison of the economic opportunities facing native workers in different cities would show little or no difference because, in the end, immigration affected *every* city, not just the ones that actually received immigrants. (Borjas, 2003, p. 1338.)

In such a scenario, a comparison of wages across cities would reveal little, if any, wage effect.

While predicted by theory, evidence of the equilibrating hand of factor input mobility—specifically, native migratory response to increased job competition—is mixed. On one side, Card (2001), Card and DiNardo (2000), Kritz and Gurak (2001), and Peri (2007) found, for the U.S. context, either no relationship between the entry of immigrants and the exit (or failure to enter) of the native-born or that both immigrants and the native-born moved to the same cities and probably for the same reason: economic opportunity. Economically healthy cities, for example, likely attract inflows of both international and domestic migrants. These results suggest that outflows of natives may not significantly contaminate estimates of immigrant effects based on regional variation.

The evidence on the other side, for factor input mobility, includes Borjas (2006), who used Decennial Census data for the period 1960-2000 to show that internal migration decisions by natives are sensitive to immigrant-induced increases in labor supply. Specifically, high-immigration areas were associated with lower native in-migration rates and higher native out-migration rates. Native migration responses, in turn, “attenuate the measured impact of immigration on wages in a local labor market by 40 to 60 percent, depending on whether the labor market is defined at the state or metropolitan area level” (Borjas, 2006, p. 221). Some heterogeneity in responses has also been detected. For example, Kritz and Gurak (2001) found minimal overall connection between in-migration of foreign-born and out-migration of native-born, but they also found that the results varied by state and by group. They found a positive relationship between immigration and native out-migration for California and Florida and also found that, in states that have experienced the highest immigration, foreign-born men were more likely to out-migrate than were native-born men. That is, prior immigrants were more mobile than natives. Partridge and Rickman (2008) found out-migration responses to immigration to be more significant

in rural counties. In addition, they found that previous interstate movers (immigrant or native-born) were more likely to move from states with high recent immigration than either immigrants living in their state of first settlement or natives living in their state of birth.

A similar masking of cross-area impacts could occur due to intercity and interstate trade. Card (2005, p. 10) noted that, in the presence of trade across cities, “relative wages may be uncorrelated with relative labor supplies, even though at the national level relative wages are negatively related to relative supplies.” If low-skilled international immigrants move to Los Angeles, for example, the production of goods intensive in low-skilled labor will increase there. However, the prices of these goods in Los Angeles may not change compared to other cities because free trade within the United States ensures prices are equalized across cities and regions, and so are wages (which is the factor price equalization theorem). This means that so long as technology does not change, relative wages of low-skilled workers in Los Angeles compared to other cities will not change either. This logic holds as long as the inflow of immigrants is not so large that Los Angeles ceases to produce goods intensive in higher-skilled labor and comes to specialize in low-skilled intensive goods;¹⁷ in this case, relative wages of low-skilled workers in Los Angeles could indeed fall compared to other cities. These results are also contingent on there not being a significant nontraded sector and on Los Angeles producing just a small share of low-skilled intensive goods produced nationally.

In sum, any type of labor market response to immigration—whether along the margin of labor flows, capital flows, or flows of goods—can serve to diffuse the impact of immigration from the localities directly affected to the national economy. This kind of diffusion implies that even though one may not observe adjustments along a particular margin, there may be other unexamined and unexplored margins along which such adjustments can take place. Any such adjustments imply that spatial correlations between wages and immigration may underestimate the national wage impact of immigration.

The adjustments described thus far in this section explain why spatial studies may underestimate any national wage impact of immigration. However, the same reasoning implies that there are other adjustments—international trade in goods and services and capital flows across countries—mitigating the wage effect of immigration at the national level. Imports and exports of goods and services together represented 30.0 percent of U.S. gross domestic product (GDP) in 2014, indicating that the United States is well integrated in world trade. Along with large capital flows between

¹⁷See Section 4.5 for discussion illustrating these relations in a simple model with two types of labor and two types of production technologies.

the United States and foreign countries, this trade may prevent or limit any wage response to immigration, though this is difficult to study empirically.

The ability of firms to change their technology is another factor possibly dampening negative wage impacts of immigration. The basic idea is that firms adjust technology to absorb workers who become more abundant through immigration (see Section 4.5). Similar to the situation with trade, this adjustment can lead to a situation where an immigration-induced labor supply shock is absorbed without changes in wages.¹⁸ Hanson and Slaughter (2002) were among the first to compare the trade- and technology-induced adjustments to labor supply shocks on the industry level, while Dustmann and Glitz (2015) extended this literature by investigating adjustments at the firm level and considering the role of firm births and deaths in the adjustment process. Both papers found that technology-induced changes in factor intensity are more important for the absorption of immigration than trade-induced changes in the mix of outputs (see also Lewis, 2013). Lewis (2011a) focused on the technology explanation and examined how investment in automation machinery by U.S. manufacturing plants over recent decades has substituted for different kinds of labor. He concluded that “these investments substituted for the least-skilled workers and complemented middle-skilled workers at equipment and fabricated metal plants.” He found that metropolitan areas that experienced faster growth in the relative supply of less-skilled labor as a result of immigration “adopted significantly less machinery per unit output, despite having similar adoption plans initially [implying that] fixed rental rates for automation machinery reduce the effect that immigration has on less-skilled relative wages” (Lewis, 2011a, p. 1029).

Illustrative Results from Spatial Studies

Table 5-3 in Section 5.8 summarizes the results from spatial studies of the labor market effects of immigration, most of which employed IV methods to address the endogeneity of immigrants’ locational choices. While these studies are not uniform—they use different data, look at different time periods, and examine varying magnitudes of immigrant inflows—their results suggest that the impact of immigration on the group most likely to be affected, low-skilled workers, ranges from negligible to at least modestly negative. A more precise comparative assessment of the literature is provided in Section 5.5 below. As noted above, some groups such as prior

¹⁸In terms of a standard model of production, this interpretation refers to a change in relative inputs due to a technology-induced rotation of the isoquant around a fixed isocost line, while the trade explanation above refers to a situation where relative inputs (i.e. shares of low-skilled to high-skilled labor) change due to the isocost line rotating around a fixed isoquant.

immigrants—for example, the Hispanic immigrants and Hispanic native-born studied by Cortés (2008)—appear to experience somewhat larger negative wage impacts. One contributing factor to the differential wage impact experienced by Hispanics, identified by Warren and Warren (2013) and Massey and Gentsch (2014), is that these groups are often competing in labor markets characterized by a rising share of unauthorized workers who are under increasing enforcement pressure. This may reduce their bargaining power and create downward pressure on wages in those labor markets. Employment impacts, measured in various ways discussed below, are also modest but perhaps vary more broadly across metropolitan areas.

Spatial studies commonly designate the skill group of natives, and sometimes immigrants, according to education level, although some use occupation as the skill dimension. Given the composition of immigrants relocating to the United States historically, the focus has generally been on their impact on low-skilled or other disadvantaged groups. The important study by Altonji and Card (1991) is an example. The IV approach used in most subsequent studies had its beginnings in this study and was later further refined in Card (2001). In Altonji and Card (1991), the 1970 share of immigrants in the population was used to construct the IV for immigrant inflows over the 1970-1980 period. As discussed above with regard to the possible imperfect substitutability of immigrants and the native-born with similar measured characteristics, focusing on the total immigrant share implicitly allows cross-effects to be examined. However, it does not allow an analysis of which immigrants are having the largest impact and instead measures the average effect.¹⁹

Overall, Altonji and Card (1991) found that immigration had a negative effect on wages, with a 1 percentage point increase in the immigrant share of the population reducing wages of low-skilled, native-born workers by 1.2 percent. They also found that a 1 percentage point increase in a city's foreign-born share predicted a reduction in the earnings of black males with a high school degree or less by 1.9 percent, black females with high school or less by 1.4 percent, and smaller—and statistically insignificant—reductions in earnings for whites with a high school education or less. The only other spatial study that found negative wage effects of similar magnitude is Borjas (2014a); the panel discusses below why these results might differ from those of other studies. Regarding employment (as opposed to wage) effects, Altonji and Card (1991) found that immigration

¹⁹For example, two cities may have the same share of immigrants but in one city immigrants may be predominantly high skilled and in another predominantly low skilled. As explored in Section 4.5, the estimated effect of the immigrant share variable may be smaller than if the effect of immigrant shares of low-skilled and high-skilled immigrants on their native counterparts were separately examined.

over the 1970-1980 period in low-wage industries led to modest displacement of low-skilled natives from those industries; but they found no statistically significant reduction in low-skilled natives' weeks worked or the employment-to-population ratio.

LaLonde and Topel (1991) examined the impact of recent immigration on different arrival cohorts of prior immigrants. Their results are notable for identifying a negative relationship between new inflows and the earnings of recent prior immigrants—an effect that appeared to diminish with the amount of time prior immigrants had spent in the United States. In addition, they characterized the estimated effect of immigrants on the wages of nonimmigrants as “quantitatively unimportant” (Lalonde and Topel, 1991, p. 190). While they did not instrument for immigrant inflows, potentially underestimating the negative effect of immigrants, their findings are consistent with evidence discussed above of imperfect substitution between immigrants and native-born workers.

Since immigrants were disproportionately (relative to native-born workers) in the low-skilled category in the time periods examined, researchers expected larger impacts of immigration on the wages of low-skilled native-born blacks than whites because among low-skilled workers, native-born blacks are less skilled and otherwise disadvantaged compared to native-born whites. As noted above, Altonji and Card (1991) found adverse wage effects that were larger for blacks than whites. LaLonde and Topel (1991) also reported a negative effect for young (and hence inexperienced) native-born blacks, finding that a doubling in the number of new immigrants would decrease wages by a very modest 0.6 percent for young native-born black workers. Other studies for this period (e.g., Bean et al., 1988; Borjas, 1998) did not detect an effect for native-born black workers. Original analysis of Decennial Census data in *The New Americans* suggested that one reason for this minimal measured impact was that—as of the mid-1990s—immigrants and the black population still largely resided in different geographic locations and therefore were not typically in direct competition for jobs (National Research Council, 1997, p. 223). Until recently, large proportions of the nation's immigrants were concentrated in relatively few geographic areas, making the distinction between high- and low-immigration areas somewhat intuitive. However, relative to 20 or even 10 years ago, immigrants are now much more spatially diffused, so one should not assume that these historical relationships continue to hold.

Returning to the question of the impact of immigration on the wages of less-skilled natives, subsequent studies by Card (2001, 2005, 2009) concluded that—in line with previous findings other than Altonji and Card (1991)—the impact of immigration on the wages of less-skilled natives was modest for the various time periods considered in these studies. The Card studies all use instrumental variables to address endogeneity of immigrant

inflows, and in Card (2001, 2009) the issue of native out-migration was addressed and found not to play a role. Card (2005, 2009) raised the possibility that high school dropouts and high school graduates are perfect substitutes as an explanation for these small wage effects. As noted above, if this is the case, then the skill distribution of immigrants is quite similar to that of natives and hence large negative wage effects on low-skilled natives are not expected.

While most studies in the spatial literature use education to define skill, it is noteworthy that Card (2001) and Orrenius and Zavodny (2007) focused instead on occupation. The former separated the labor market into different metropolitan areas and, within metropolitan areas, into different occupation groups. Immigrants' inflows into cells defined by occupation and metropolitan area were predicted for each immigrant source country based on (1) the share of earlier immigrant cohorts from the source country living in the metropolitan area and (2) the *national* share of immigrants from the source country in each occupation. Card then summed over source countries to obtain the instrumental variable for immigrant inflows into these occupation-metropolitan area cells.²⁰ The basic finding of this study was that immigration during 1985-1990 reduced real wage levels by at most 3 percent in low-skilled occupations in gateway U.S. metropolitan areas characterized by the highest immigration levels. Results varied by group: a 10 percent labor supply increase due to immigration (implying a much larger percentage increase in the number of immigrants) was associated with a wage decline of 0.99 percent for male natives and 0.63 percent for female natives, a decline of 2.5 percent for earlier female immigrants, and a change indistinguishable from zero for earlier male immigrants. It is notable that the largest negative effects were for an immigrant group. On the employment side, Card (2001, p. 58) found "relatively modest" effects of recent immigrant inflows on workers in the bottom of the skill distribution in "all but a few high-immigrant cities." A 10 percent labor supply increase was found to have reduced the employment rate by 2.02 percentage points for male natives, by 0.81 points for female natives, by 0.96 points for earlier male immigrants, and by 1.46 points for earlier female immigrants.

Orrenius and Zavodny (2007) used a panel model with instrumental

²⁰That is, what Card termed the "supply-push component" of immigrant inflows for group g into occupation group j and city c (SP_{jc}) is:

$$SP_{jc} = \sum_g \tau_{gi} \lambda_{gc} M_g,$$

where M_g represents the number of immigrants from source country g entering the United States between 1985 and 1990; λ_{gc} is the fraction of immigrants from an earlier cohort of immigrants from country g who live in city c in 1985, and τ_{gi} is the national fraction of all 1985-1990 immigrants from g who fall into occupation group j .

variables to estimate wage impacts of immigration on natives, also by occupation group. The authors found a small negative effect on the wages of low-skilled natives and no wage effect in more-skilled labor markets. A variable quantifying “immigrants who are admitted to the United States in a given year as the spouse of a U.S. citizen by occupation group, area, and year” works as the instrument because it is correlated with the rate of immigration into a given Metropolitan Statistical Area (MSA) and occupation but is uncorrelated with unobserved factors that drive wage growth (Orrenius and Zavodny, 2007, p. 11).

Smith (2012) examined spatial variation in employment for a narrowly defined group of workers under the hypothesis that new immigrant workers often compete in very specific labor markets. Also employing an IV model based on the geographic preferences of previous immigrants, he found that low-skilled immigration since the late 1980s had negatively impacted *youth employment* more than less-educated, native-born adult employment. He estimated that a 10 percent increase in the number of immigrants with a high school degree or less reduced the “average total number of hours worked in a year by around 3 percent for native teens and by less than 1 percent for less-educated adults.” This finding adds a new detail to the previous research that generally found modest negative or no relationship across states or cities between intensity of immigration and *adult* labor market outcomes across metropolitan areas or states (e.g., Card, 1990, 2001; Lewis, 2003). Smith (2012, p. 55) suggested that two factors were at work, “There is greater overlap between the jobs that youth and less-educated adult immigrants traditionally do, and youth labor supply is more responsive to immigration-induced changes in their wage.” His empirical analysis also suggests that, despite modest increases in schooling rates of natives in response to immigration, there is little evidence of higher earnings 10 years later in life. Smith concluded that it is possible “an immigration-induced reduction in youth employment, on net, hinders youths’ human capital accumulation.”

Other recent studies also suggest larger negative effects of immigrant inflows on earlier immigrants than on natives, consistent with LaLonde and Topel’s (1991) earlier findings and the notion of imperfect substitution between the two groups. Cortés (2008) examined the impact of immigrant inflows over the 1980-2000 period in immigrant-intensive predominantly service industries, following Card’s approach of instrumenting immigrant inflows using previous settlement patterns. Similar to Card, she found that low-skilled immigration does not have an effect on low-skilled native wages overall. She did, however, find a modest negative impact on the wages of low-skilled previous immigrants and low-skilled native-born Hispanics, especially those with poor English. Complementary findings by Lewis (2013) indicate that among immigrants, the wages of those with poor English skills are more

sensitive to immigrant inflows than the wages of those with good English skills. This evidence suggests that language skills may be a significant factor influencing substitutability between immigrants and natives with the same observed characteristics.

Natural Experiments

Sometimes “natural experiments” arise that provide unique opportunities to deal with the endogeneity problems inherent in spatial analysis. Such experiments also provide an opportunity to study the short-run effect of abrupt, unexpected immigration episodes, which should yield the most negative impacts on natives. An example is the pioneering work by Card (1990), who took advantage of one such case—the 1980 Mariel boatlift, which brought thousands of predominantly low-skilled Cuban immigrants (referred to as “Marielitos”) to Miami, expanding that area’s labor force by about 7 percent in just a few months. This circumstance allowed for a well-controlled analysis: Card was able to estimate the impact of this immigration episode by comparing wage and employment changes after the influx in Miami with wage and employment changes in otherwise similar metropolitan areas that did not experience this influx. The endogeneity problem confronting spatial analyses was avoided altogether because the arrival of the Marielitos to Miami had nothing to do with selection of a high wage destination. Card’s study was one of the first to use the identification strategy that became known as the “difference in difference” approach: comparing differences in wages or employment between Miami and other metropolitan areas, and over time. However, it still entails an important assumption—that, in the absence of the Mariel boatlift, wages and employment in Miami would have developed in similar fashion as in the comparison metropolitan areas (the “common trend assumption”).

Using this approach, Card (1990) found that, while the unemployment rate among black workers rose in the 2 years after the Marielito influx into the labor market, the rise was not significantly different from that experienced in four comparison cities (Atlanta, Houston, Los Angeles, and Tampa-St. Petersburg, chosen because of similar racial profiles and employment trends). One explanation Card provides is the flexibility of the Miami labor market in absorbing low-skilled workers by expansion of industries that produce goods that use low-skilled workers more intensively. In this study, the comparison cities substitute for the missing counterfactual: namely, what would have happened if the immigration had never taken place.

First, Borjas (2016b) and Peri and Yasenov (2015) have recently reappraised the Mariel boatlift immigration episode, carefully matching the skills of the arrivals with those of the pre-existing workforce. The skill-matching technique led them to focus on the impact on non-Hispanic (Borjas)

and non-Cuban (Peri and Yasenov) high school dropouts because high school dropouts represented about 60 percent of those arriving on Florida's shores as a result of Castro opening the port of Mariel. The available data do not permit natives and immigrants to be distinguished, but Miami had few non-Hispanic immigrants at that time. Both papers were motivated in part by the development of a new technique (Abadie et al., 2010) to select comparison cities more systematically than did Card. Despite this methodological similarity, the authors reach very different conclusions. Peri and Yasenov concurred with Card, finding no detectable negative effects on wages of non-Cuban workers. Borjas found that a drop, in the range of a 10 to 30 percent decrease, in the relative wage of the least educated Miamians occurred between 1979 and 1985, representing a shock that took the better part of a decade to absorb. The divergent results in the two studies are due in large part to the composition of the samples and data sources examined to analyze wage trends in post-Mariel Miami and the comparison cities.

The misalignment of the study results described above suggests that differences in the implementation of a methodology can result in quite different estimates of the impact of immigration. Consideration of these studies also underlines that what occurred to the wage structure in Miami was a very unusual event—one that can be characterized as a true short-run shock occurring in a compressed time period, as opposed to more-anticipated immigrant flows that typically occur over longer time periods. The decade-long absorption of the supply shock in the Miami labor market was a unique episode and may not be fully informative about the dynamics of how labor markets in general adjust to immigration.

Monras (2015) exploited a different natural experiment. The Mexican peso crisis caused that country's GDP to contract by 5 percent in 1995, leading to a surge in Mexican immigration to the United States for reasons unrelated to changes in the U.S. economy. This event allowed Monras to estimate a short-run effect by comparing wage data for 1994 and 1995 using the CPS. Unlike in the Mariel boatlift case, this natural experiment did not direct immigrants to a particular location in the United States, so Monras used the usual IV for immigrant location based on the 1980 settlement pattern of Mexicans. He found that a 1 percent increase in labor supply due to the immigration of Mexicans with an education of high school or less reduced the wages of pre-existing non-Hispanic workers with an education of high school or less by 0.7 percent. The pre-existing workers in this sample include non-Hispanic immigrants. The observed effect is less negative than that observed by Altonji and Card (1991) but more negative than those observed by Card (1990) and Cortés (2008). Monras found that internal migration caused most of the effect to dissipate within 10 years.

Using a natural experiment approach in the study of immigration is quite attractive, although, as one can see in our discussion of the impact

of the Mariel boatlift, the results are still not free from disagreement. It would certainly be of considerable interest to have a number of such studies for the United States. But, by its nature, this type of exogenous inflow of immigrants is a rare occurrence. While the panel's review in this chapter is focused on empirical evidence for the U.S. experience, in this case, given the paucity of data for the United States, it is worth noting evidence from other countries where natural-experiment situations have arisen.

Blau and Kahn (2015) surveyed not only Card's (1990) analysis of the Mariel boatlift but also studies of four other natural-experiment events: (1) the repatriation of French-Algerians following the end of colonial rule in Algeria in 1962 (Hunt, 1992); (2) the repatriation of Portuguese residents from former Portuguese colonies in Africa in 1974 (Carrington and de Lima, 1996); (3) the migration of Jews from the former Soviet Union to Israel after the loosening of emigration restrictions in 1990 following the fall of Communism (Cohen-Goldner and Paserman, 2011; Friedberg, 2001); and (4) the repatriation of ethnic Germans from Eastern Europe and the former Soviet Union following German reunification (Glitz, 2012). In each case, the immigrant inflows were relatively sudden and quite sizable. Blau and Kahn concluded, from the evidence of these studies, that "while the studies are not unanimous, there is at most weak evidence . . . that these episodes had important effects on the level or distribution of native wages, despite the size of the immigration shocks" (Blau and Kahn, 2015, p. 828).

5.4 AGGREGATE SKILL CELL AND STRUCTURAL STUDIES

The spatial studies described in Section 5.3 rely on variation in the immigrant density across metropolitan areas or states to infer differential wage and employment impacts. Skill cell studies, such as the pioneering study by Borjas (2003), exploit variation in the density of immigrants across groups of workers categorized by their work experience (typically using age as a proxy) and education, the principal (observable) determinants of skill. Sorting into these skill cells allows for a comparison of outcomes (typically wages) of workers presumed to compete in approximately the same labor market. Labor supply changes, in the form of new immigration, permeate various skill groups unevenly; for example, recent immigrants have been represented disproportionately at very low and very high education levels. The methodological approach is to compare the changes in natives' outcomes in skill cells that experienced larger increases in immigrant density with the changes in natives' outcomes in skill cells that had smaller increases; the comparison allows the impact of immigration to be inferred. Specifically, the approach measures the wage effect on natives of inflows of immigrants of similar skill, averaged across all skill levels.

Skill cell studies have typically (but not always) been conducted at the

national level, which alleviates the problem in spatial models of diffusion of any national impact across geographic areas.²¹ However, the problem remains that incoming immigrants with particular skills may be responding to changes in demand for workers of different skill types, thus leading to spurious correlations between wage growth by skill type and the change in immigrant density by skill type. Another problem with this approach is that the experience and education of immigrants—as reported in survey data—may not be as highly valued by employers as are their equivalents in native-born workers, meaning that immigrants may be allocated by the model to skill cells different from the ones in which they are actually competing with native workers. As noted above in this chapter, Dustmann and Preston (2012) discussed the role of skill downgrading in the sorting of immigrants into occupations. Relatedly, because surveys suitable for the study of immigration do not contain information on actual experience, necessitating the use of age as a proxy, the classification into skill cells is considerably less accurate for women than for men. For this reason, the reported studies using this approach have all limited themselves to analyzing the impact of immigration on males.

A quite distinct set of studies employs the methodological approach referred to as the structural approach. Structural studies of immigration typically divide workers into skill cells at the national level, but the hallmark of the approach is the imposition of theory-based relationships (structure) on the data. An attractive feature of the structural approach is that estimates can be used to simulate economic outcomes associated with different immigration scenarios. For example, a structural model can project the impact of visa policy proposals, such as to increase high-skilled immigration or to create programs allowing unauthorized immigrants credentials to work. However, the technical difficulties associated with this approach require the use of simplifying assumptions that influence the estimated outcomes. This section reviews in turn the published studies corresponding to the two methodologies.

Aggregate Skill Cell Analyses

Borjas (2003), the first paper using this approach, created skill categories based on four education groups—did not complete high school, completed just high school, attended some college, and completed college—and eight

²¹National-level estimates do not eliminate this measurement problem to the extent that markets for human and financial capital are global rather than national, as they are increasingly becoming.

experience levels: 1-5 years, 6-10 years, and so on, up to 36-40 years.²² Borjas (2014a) further divided “completed college” into “college graduate” and “post-graduate” based on evidence that workers with advanced degrees are often not competing closely for jobs with those who have just a college degree. The skill cell approach assumes that workers within each cell, whether foreign- or native-born, are perfect substitutes while workers across cells are imperfect substitutes. The wage impact of immigration on male natives is typically estimated by regressing cell-specific outcomes on the immigrant share in the respective education-experience group (skill cell).

Purely correlational (i.e., ordinary least squares, or OLS, regression) estimates based on Decennial Census data in Borjas (2003) and Borjas (2014a)²³ revealed a negative correlation, for male workers, between wage growth and the share of immigrants by skill group. This relationship is illustrated in Figure 5-2.

The scatter diagram data suggest that, at the national level, male wages should fall by 3 to 4 percent if immigration increases the number of male workers in a skill group by 10 percent due to immigration (approximately the effect of immigration on labor supply cumulatively from 1980 to 2000) (Borjas, 2003). Most of this effect is driven by observations at the low end of the education spectrum. As summarized later in this chapter, the national skill cell studies find larger negative wage effects on native-born workers from immigration inflows than do other approaches (i.e., spatial and structural studies).

Two papers by different authors expand on the skill cell work of Borjas. Llull (2015) addressed the endogeneity of immigrant density by skill cell and observed that the characteristics of arriving immigrants are not random but determined in part by both the labor demand and wages for a given skill cell in the United States. He developed a new instrument based on a cross-country analysis of the determinants of migration. The number of immigrants of each skill type expected in the United States is predicted based on events abroad: events that are very unlikely to be correlated with the return to education and experience in the United States. His results are striking: using this instrumental variable almost triples the negative effect found by Borjas (2003), yielding the most negative wage effect of any published study (equal to Altonji and Card’s [1991] impact on wages of low-education black men). The panel speculates below as to why this might be.

Card and Peri (2016) focused instead on robustness tests, showing that the wage effects predicted in Borjas’s (2014a, Ch. 4) skill cell model

²²Experience, sometimes termed “potential experience,” was calculated based on the estimated number of years that had elapsed since the individual finished school.

²³Borjas (2003) used data from the Public Use Microdata Series, 1960-2000, whereas Borjas (2014a) used the Public Use Microdata Series for 1960-2010.

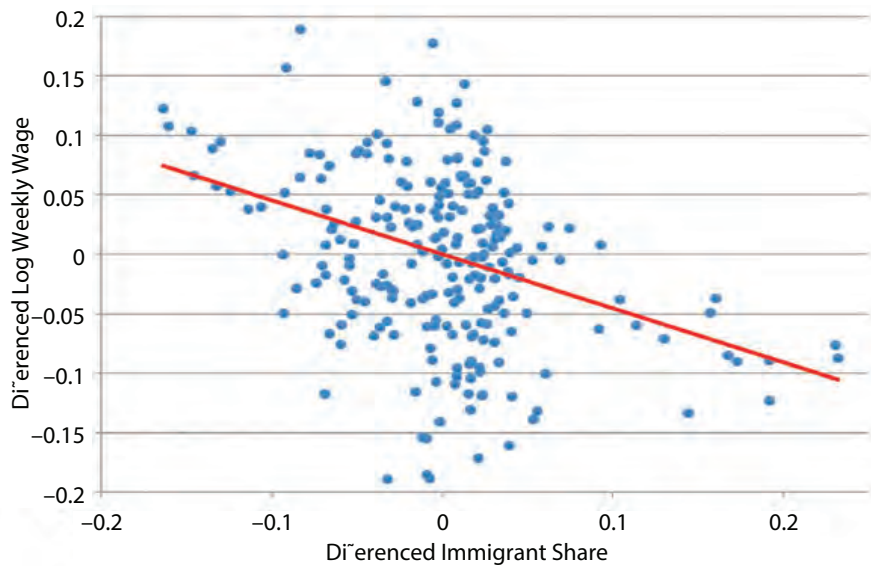


FIGURE 5-2 Scatter between male wages and male immigration across skill groups. NOTE: Each point in the scatter diagram represents the decadal change in the log weekly wage and the immigrant share (that is, the percentage of immigrants in the workforce) for a native group of working men defined by years of education and work experience. The slope of the regression line is -0.450 , with a standard error of 0.172 .

SOURCE: Borjas (2003, Fig. II, p. 1345).

are sensitive to the form of the regression used. They found that changes to the way the statistical relationship is estimated and a change in the way immigration is captured each leads to less-negative estimates of the impact of immigration on wages and renders estimates at different levels of geographic aggregation more similar. The issues raised by the sensitivity of the Borjas results to the Card and Peri robustness tests, particularly as they relate to the measure of immigrant inflow, are potentially relevant for a number of immigration studies using a similar approach.²⁴

It should be noted that estimates produced using the spatial and non-structural skill cell approaches are not conceptually comparable. Whereas

²⁴See, for example, Borjas (2003, 2006, 2009), Bonin (2005), Bratsberg et al. (2013), and Steinhardt (2011). Card and Peri (2016) argued that their immigration measure (immigrant induced labor supply changes) is preferred because it is not biased by endogenous native flows; Borjas (2003, Ch. 4, fn. 8) argued that his measure (the fraction of immigrants in the skill group, including labor-market-specific fixed effects) is preferable because of nonlinearities between wages and measures of the immigrant supply shock.

the skill cell approach identifies the average *direct* effect of increasing the number of workers in the various skill groups on wages of (male) workers in these skill groups, spatial studies often estimate different parameters (depending on the specification), many of which also capture *indirect* effects induced by complementarities between immigrants and native workers at other parts of the skill distribution. These indirect effects may come about because an increase in workers in one skill group may decrease wages of workers in that group but increase wages of complementary workers *across* skill groups (e.g., the case where immigrants compete and harm the wages of construction or kitchen workers but enhance the opportunities and wages of first-line supervisors or wait staff). Further, there must be sufficiently low substitution between age-education cells to allow for estimation of the standard skill cell model. And, as with any methodology, data must be sufficient to allow the analyst to correctly allocate immigrants into skill cells defined by high degrees of substitutability within a cell.

A strong assumption in the skill cell approach—discussed in Section 5.2—is that immigrants and natives with the same measured education and the same age (or potential experience) are very close substitutes. Immigrants’ education and labor market experience are often not comparable to that of natives, and immigrants therefore earn less than observationally similar natives, particularly when they first arrive in the host country. This downgrading can be dramatic, as Dustmann et al. (2013) illustrated for the case of the United Kingdom. As a result, immigrants compete most closely with natives in other skill cells than those to which they would be assigned, based on education and experience observables. As an example consider an Iranian surgeon who practiced for 15 years in Iran but upon arrival in the United States speaks little English and is not comfortable with the U.S. operating theatres or technology. This individual’s labor market experience in Iran may hold little value in the United States. As a result, the immigrant may initially work in a lower position, perhaps as a nurse, and then possibly move to a physician’s position as the individual gains English proficiency and acquires experience and the requisite medical licenses. Thus, although arriving with high measured skills, this immigrant competes with individuals in another skill cell than the one to which the immigrant would be assigned, based on observables.

It is possible to build in adjustments to realign the way new arrivals are sorted into skill cells in these models. For example, by using occupation as the indicator of skill, Orrenius and Zavodny (2007) bypass the estimation problem created by skills downgrading in more restrictive models.

Structural Estimates

Much of the research described above, including the cross-area (spatial) analyses and simple skill cell correlations, impose little structure on the econometric models from which wage and employment impacts are estimated. In contrast, *structural models* build on theoretical relationships to simulate labor market responses to immigration. In these models, identification (i.e., establishing the differences between a situation with immigration and one without) is achieved by using the model structure, which imposes a relationship between labor supply and wages, the magnitude of which depends on the estimated parameters that characterize the production function (i.e., the relationship between output and inputs of the factors of production). Typically, simple variants are used such as the constant elasticity of substitution (CES) production function,²⁵ to derive these relationships—specifically, the elasticities of substitution between different skill groups—and describe them with a small number of parameters. These estimated parameters may then be used to simulate the impact of changes in labor supply due to immigration on the relative wages of native-born workers.

The implementation of structural models raises a number of issues. For one, there is the need to select a production function; this imposes functional form assumptions that may be restrictive. As noted above, beginning with Borjas (2003), the literature has used a nested CES framework. Decisions must also be made about which cross-group substitution elasticities to estimate, which can have a strong effect on the findings from structural models. The number of such cross-group effects that may be estimated is limited because, as that number grows, the empirical exercise quickly becomes intractable. For example, Borjas (2003) separated the labor force into 32 skill groups defined by education and work experience. In order to estimate all cross-group elasticities, 1,024 (or 32×32) effects would have to be estimated. Borjas (2003) instead estimated the extent of substitution across education groups and across experience groups, then calculated the skill-group elasticities from this smaller set of starting estimates. Later researchers—for example, Ottaviano and Peri (2012), discussed below—have modified some of these assumptions.

Structural model simulations may be performed for either short-run or long-run scenarios. As discussed above, short-run analyses measure the wage impact of immigration before there has been sufficient time to adjust capital inputs; that is, in the short run capital is fixed. The long run is a time frame that by definition is sufficiently long to allow firms to adjust the

²⁵As its name suggests, under this production technology assumption, there is a constant percentage change in factor (e.g., capital and labor) proportions at all output levels. A formal presentation of the CES version of the structural model can be found in Borjas (2014a, pp. 106–112).

amount and type of physical capital (e.g., by purchasing new machines or building new plants) used in response to factor shocks.²⁶ If, for example, there is an immigration-induced decline in the wages of relatively low-skilled production workers, this may lead to an increase in investment in industries using more of this type of labor, potentially cushioning the decrease in their wages (see Section 4.5). The simulations conducted under these two alternative assumptions may be regarded as bounding the wage effects associated with an immigration shock (at least the wage effects estimated using this approach). Borjas (2003), along with a number of other studies, performed simulations of specific labor supply shocks. These studies assume that the entire immigration that occurred over a certain period (such as 1990 through 2010) happened all at once, and then the simulation projects the impact of this supply shock in the short run and in the long run. Borjas (2003), in particular, emphasized the short run and assumed the stock of physical capital is fixed. One rationale for adopting this assumption is the lack of evidence with respect to how long it takes capital to adjust in different situations. Ottaviano and Peri (2012), on the other hand, emphasize the long run.

An important point is that in the empirical literature, temporal distinctions between the short and long run do not necessarily map precisely with the theoretical concepts. In the real economy, there is variation in how long it takes capital to adjust (the defining characteristic of the long run). Indeed, if capital adjusts quickly, the long run could be quite short in calendar time; if it adjusts slowly it might be quite protracted in calendar time. In terms of the structural models, what is really meant by “the short run” is that capital is perfectly inelastic in supply while “in the long run” capital is perfectly elastic in supply.²⁷

Another important point is that while structural models can estimate changes in *relative wages* across groups in the short or long run, the assumptions necessary to estimate the model require that the *average wage* cannot be affected by immigration in the long run. The production function specification dictates that a 10 percent immigration-induced increase in supply have a 0.0 percent impact on average wages in the long run and must lower the average wage by 3.0 percent in the short run (Borjas, 2014a, p. 109).²⁸ This technical assumption cascades to all other estimates of the

²⁶Chapter 4 provides examples of simple models that use this common distinction between short-run and long-run effects and illustrate the adjustment differences relevant to the two time frames.

²⁷The panel also notes these are static models whereas a full modeling of the long-run/short-run distinction would specify a dynamic model.

²⁸See Section 4.2 (or Borjas, 2014a) for a formal explanation of the underlying production function theory behind these numbers. Again, the intuition is that, in the short run and with other inputs to production fixed, additional workers will compete for a limited number of

wage impact of immigration using this framework. As a result, since the average wage cannot change in the long run, adjustments to immigration occur only in relative wages: The groups that received disproportionately large numbers of immigrants may experience a long-term relative decline in their wage, while the wage of the groups that received very few immigrants may see a relative increase in the long run. It is important to keep these mathematical restrictions in mind when interpreting any wage impact estimated from the structural approach.

As with any theoretical approach, the simplifying assumptions entailed in the aggregate production function approach come at a cost (Blau and Kahn, 2015, p. 812):

. . . Specifically, one must decide how to disaggregate labor into skill groups and also what types of substitution/complementarity relationships to allow. As examples of the latter, recall Lewis's (2011b) model allowing skilled and unskilled labor to have asymmetric relationships with capital or Ottaviano and Peri's (2012) models allowing differing substitution relationships between different pairs of education groups. Moreover, researchers must also decide whether to allow immigrants and natives within a skill group to be imperfect substitutes, and if so, whether the immigrant/native substitution parameter should be the same for all skill groups (Lewis, 2011a).

The relative wage and employment impacts predicted by these models hinge crucially on estimates of the elasticities of substitution between native-born and foreign-born workers overall, and the separate elasticities between education and experience groups or between skill groups. The less interchangeable different kinds of workers are, the less they compete and the less downward pressure inflow of one group can exert on wages of another.

An important early paper using the aggregate production function approach in this area was Borjas et al. (1997). These authors compared the actual supplies of workers in particular skill groups to what they would have been in the absence of immigration and then used results from previous studies on the elasticity of substitution among skill groups to compute the impact of the immigrant supply shock on the relative wages of skill groups. The study, which focused on the 1980-1995 period, examined two

jobs, which exerts downward pressure on wages. In the long run, once firms have had time to adjust capital stocks, the demand for labor increases along with the size of the economy and wages will be pushed back upward toward initial levels. The elasticities of substitution between immigrant workers and different types of established workers in the labor market dictate which workers' pay will change by more than -3 percent and which workers' pay will change by less than -3 percent.

relative wage comparisons: (1) the wages of high school dropouts relative to those with at least a high school degree and (2) college graduates relative to high school graduates (where all workers were aggregated into “high school equivalents” and “college equivalents”). The authors found that immigration accounted for a 3-6 percent decline in the wages of high school dropouts relative to high school graduates between 1980 and 1995—in the range of 27-55 percent of the total decline for that group over the period. In contrast, they found that immigration did not explain much of the increase in the college wage premium (i.e., the college versus high school equivalent comparison). These findings reflect the fact that, for these larger educational group aggregates, immigration did not substantially affect relative supplies of workers in each skill category.

Although the results from Borjas et al. (1997) are intriguing, there were limitations to the study. The underlying production relationships (parameters) were obtained from outside sources and the relative wage effects of immigrant supply shifts were mechanically predicted from these elasticities of substitution. Furthermore, each specification (the wage group comparisons in (1) and (2) above) distinguished (compared) just two types of labor.

These and other issues were addressed by Borjas (2003), who focused on the impact of immigration on relative wages in the United States over the 1980-2000 period using a nested CES production function approach. Borjas assumed—similar to Card and Lemieux (2001)—that workers within the same education category but who differ in their labor market experience are not perfect substitutes in production. As in the analysis by Borjas et al. (1997) of the shorter post-1980 period, Borjas (2003) found substantial negative wage effects of immigration with capital held fixed, particularly on the low skilled. He estimated that the immigrant inflow from 1980 to 2000, equal to an increase in the labor supply of working men of about 11 percent, lowered the wages of male native high school dropouts by 8.9 percent and those of male college graduates by 4.8 percent.

As noted earlier, Borjas disaggregated skill groups by work experience (proxied by age) as well as education levels, forming 32 education-experience cells. His addition of the experience dimension built on the insight from human capital theory that workers enhance their skills not only through investments in formal schooling (i.e., education) but also by accruing skills through labor market experience. He thus assumes that not only are workers with different education levels imperfect substitutes but workers with the same education but different experience levels are imperfect substitutes. In the real world, immigrant inflows vary across education-experience cells, and the extent of that variation changes over time. This variation helps allow the impact of immigration on the labor market to be identified. Borjas assumed that, within education-experience cells, immigrants and natives are perfect substitutes. In contrast to the study by Borjas

et al. (1997), which used outside information to obtain the parameters of the production function, Borjas (2003) directly estimated parameters of the production function and then simulated the wage impacts based on the estimated elasticities.

Even the highly disaggregated approach proposed by Borjas (2003) involves some simplifying assumptions. Recent work suggests that results using the structural approach are sensitive to these assumptions. We illustrate this point with findings from Ottaviano and Peri (2012), a study of the relative wage effects of immigration over the 1990-2006 period based on Census Bureau data (from the Decennial Census and the American Community Survey [ACS]), which used the same broad framework as Borjas (2003) but changed some of the assumptions. A key distinction is that Ottaviano and Peri make different assumptions than Borjas about the supply of capital. Whereas Borjas (2003) assumed that capital supply is inelastic (does not have time to react to growing labor supply), Ottaviano and Peri assumed that it is perfectly elastic.

In addition, Ottaviano and Peri made two important changes in how substitution across groups is specified.²⁹ First, in contrast to Borjas (2003), Ottaviano and Peri allowed immigrants and natives to be imperfect substitutes. We have already discussed how, given language differences and other factors, it might be reasonable to assume that immigrants and natives are imperfect substitutes. Further, they split the sample in order to allow the substitutability between immigrants and natives for the less educated (high school dropouts and high school graduates) to differ from that for the more highly educated (those with some college and college graduates). The intuition underlying this assumption is that language and other barriers are less prevalent among highly educated foreign-born workers than among less educated foreign-born workers, allowing highly educated foreign-born workers to be closer substitutes for their native-born counterparts.³⁰ Their estimated elasticities are consistent with imperfect substitutability that differs in magnitude by education category: They obtain a native-immigrant elasticity of substitution of 11.1 for the less educated and 33 for the more highly educated (indicating that workers in the latter category are more interchangeable). Allowing for imperfect substitution between immigrants and natives is potentially important because the less closely immigrants

²⁹Manacorda et al. (2012), writing in parallel with Ottaviano and Peri (2012) on the United Kingdom, also developed the same approach based on the idea of immigrants and natives being imperfect substitutes within age-education cells.

³⁰The results from Peri and Sparber (2009) offer some support for the imperfect substitutability idea; they found that low-skilled foreign-born workers are employed disproportionately—highly so in some cases—in occupations such as construction, kitchen work, etc., that demand more physical effort and less communication skill.

substitute for natives, the smaller the effect immigrants will have on the wages of natives with the same observable skills.

Second, while Borjas (2003) imposed the same elasticity value for all adjacent education groups, Ottaviano and Peri (2012) specified the elasticity of substitution between education groups as being different (independent of native/immigrant status). They posited that, in the current economy, high school dropouts can fill many of the same kinds of jobs as workers with just a high school diploma; in other words, they hypothesized that high school graduates and dropouts often compete in the same labor market. This would be consistent with Card (2009), who found high school graduates and high school dropouts to be virtually perfect substitutes. (Recall that the economists' designation of perfect substitutes means that, for instance, high school dropouts and high school graduates can be traded at a constant rate, but that rate does not have to be one-to-one.) At other skill levels—for example between those in the labor force with some college and those with a graduate degree—the degree of substitution may be lower. Consistent with this reasoning and with Card (2009), Ottaviano and Peri found that the elasticity of substitution between high school dropouts and high school graduates is at least 10 and is infinite in some estimates, while the elasticity of substitution at higher skill levels is much lower. Since most immigrants to the United States are low skilled, the wage impact of an increase in immigrant supply will be lower if high school dropouts and high school graduates are combined, since the immigrant supply shock will constitute a smaller percentage of the same skill-group labor force in the larger aggregate.

In contrast to Borjas et al. (1997) and Borjas (2003), Ottaviano and Peri (2012) found that immigration had only a very small effect on native wages within skill groups. Using the more detailed set of parameters reflecting imperfect substitutability between natives and immigrants within an education-experience cell, they found that the effect of immigration over the 1990-2006 period was to reduce the wages of native-born high school dropouts in the range of 0.6-1.7 percent. Averaged across all skill categories, the study found that U.S.-born workers experienced a slight increase in wages as a result of immigration.

The Ottaviano and Peri (2012) specification is not without controversy. Borjas et al. (2012) presented evidence that the estimates of their two key substitution elasticities—that between immigrants and natives and that between high school dropouts and high school graduates—are sensitive to the type of data used and to what regressors are included in the underlying production function models.³¹ As Blau and Kahn (2015, p. 821) noted,

³¹Dustmann and Preston (2012) presented evidence that downgrading of immigrants may lead to finite estimates of the elasticity of substitution between immigrants and natives even if the true elasticity of substitution is infinite.

“The varying results in the estimates of the substitution elasticities illustrate a potential drawback of this type of approach to estimating the impact of immigration.”

The contrasting findings between the Borjas (2003) and Ottaviano and Peri (2012) studies suggest that results from structural models are influenced by crucial assumptions, some of which involve unobserved and untestable issues. However, these two studies also differ along a number of dimensions, ranging from the time period studied to whether the results are obtained under the assumption of capital being inelastic or perfectly elastic, that make them difficult to compare. To abstract from the impact of extraneous factors and to focus on the importance of substantive decisions, the panel extends an analysis presented in Borjas (2014b). Table 5-1 summarizes wage simulations associated with alternative specifications (“scenarios”) for a consistent time period, 1990-2010, treating all immigration between 1990 and 2010 as if it constituted a single supply shock.^{32,33} The table includes the following scenarios for both the short run and the long run (“GB” refers to Borjas, 2003; “OP” refers to Ottaviano and Peri, 2012; variables are defined and discussed below):

- **Scenario 1:** Immigrants and natives in a skill group are perfect substitutes ($\sigma_{MN} = \infty$), and high school dropouts and high school graduates are different groups—similar to GB.
- **Scenario 2:** Immigrants and natives in a skill group are imperfect substitutes ($\sigma_{MN} = 20.0$, as in OP), and high school dropouts and high school graduates are different groups (as in GB).
- **Scenario 3:** Immigrants and natives in a skill group are perfect substitutes ($\sigma_{MN} = \infty$, as in GB), and high school dropouts and high school graduates are perfect substitutes ($\sigma_{HS} = \infty$, as in OP).
- **Scenario 4:** Immigrants and natives in a skill group are imperfect substitutes ($\sigma_{MN} = 20.0$), and high school dropouts and high school graduates are perfect substitutes ($\sigma_{HS} = \infty$)—similar to OP.

In Table 5-1, the term σ_{MN} is the elasticity of substitution between immigrants and natives with the same measured skills. This term equals infinity if the two groups are perfect substitutes (the assumption in Borjas [2003]) or equals 20 for the “preferred” estimate in Ottaviano and Peri (2012). The term σ_{HS} is the elasticity of substitution between high school

³²For an analysis spanning 20 years, one might reasonably argue that—to the extent immigration is less a “shock” than a somewhat predictable flow—investment patterns reflect some level of anticipation of the expansion of the workforce and population generally.

³³In contrast to the macro literature, in all these scenarios the elasticity of substitution between labor and each of the different types of capital is assumed to be identical, precluding the capital skill complementarities discussed in Chapter 4.

TABLE 5-1 Simulated Percentage for Wage Impacts of 1990-2010 Immigrant Supply Shock

Percentage Supply Shift	High School Dropouts	High School Graduates	Some College	College Graduates	Post-College	All Education Groups
A. Short Run						
Scenario 1*: $\sigma_{MN} = \infty$						
All workers	-6.3	-2.8	-2.3	-3.3	-4.1	-3.2
Scenario 2: $\sigma_{MN} = 20.0$						
Native-born	-4.9	-2.3	-2.0	-2.7	-3.3	-2.6
Foreign-born	-8.5	-6.6	-5.9	-8.1	-8.5	-7.6
All workers	-6.3	-2.8	-2.3	-3.3	-4.1	-3.2
Scenario 3*: $\sigma_{MN} = \infty$ and $\sigma_{HS} = \infty$						
All workers	-3.4	-3.4	-2.3	-3.3	-4.1	-3.2
Scenario 4: $\sigma_{MN} = 20.0$ and $\sigma_{HS} = \infty$						
Native-born	-2.1	-3.0	-2.0	-2.7	-3.3	-2.7
Foreign-born	-5.6	-7.3	-5.9	-8.1	-8.5	-7.2
All workers	-3.4	-3.4	-2.3	-3.3	-4.1	-3.2

B. Long Run

Scenario 1: $\sigma_{MN}^* = \infty$

All workers

Scenario 2: $\sigma_{MN} = 20.0$

Native-born

Foreign-born

All workers

Scenario 3: $\sigma_{MN}^* = \infty$ and $\sigma_{HS} = \infty$

All workers

Scenario 4: $\sigma_{MN} = 20.0$ and $\sigma_{HS} = \infty$

Native-born

Foreign-born

All workers

*Because, in this scenario, native-born and foreign-born workers are perfect substitutes, it is unnecessary to differentiate between the two; hence, only one row for “all workers” is shown.

dropouts and high school graduates. It is equal to infinity if the two groups are perfect substitutes.

The above scenarios summarize how the key differences in the structural studies literature can be linked back to the studies' modeling assumptions. Allowing capital to adjust (i.e., moving from a short-run to a long-run scenario) reduces the estimated negative effects across the board—that is, for all workers as well as for relative wage effects within each education group. As the elasticity of substitution between native-born and foreign-born is changed from the two groups being perfect substitutes ($\sigma_{MN} = \infty$) to imperfect substitutes ($\sigma_{MN} = 20.0$), the impact on the wages of “all workers” (natives and immigrants) for any given skill group is unchanged, but *within* each skill group, imperfect substitutability is associated with a larger negative wage impact on earlier foreign-born workers (prior immigrants) and a smaller negative wage impact on native-born workers. This makes sense for the following reason: In cases where foreign-born and native-born are close substitutes, one would expect an immigration shock to have a more equal impact on the two groups; imperfect substitutability between the two groups insulates natives from negative effects to some degree. Comparing otherwise similar scenarios in which high school dropouts and high school graduates are imperfect substitutes (Scenarios 1 and 2) versus scenarios in which they are perfect substitutes (Scenarios 3 and 4), one can see that the impact of allowing high school dropouts and high school graduates to be perfect substitutes has the effect of reducing the negative wage impact for high school dropouts. This makes sense, as any negative impact from the inflow of unskilled workers is now diluted across a larger portion of the labor supply (high school dropouts plus high school graduates). A portion of the negative wage impact is averaged into the value for high school graduates, which becomes slightly more negative. The simulations also show that allowing for imperfect substitution between immigrants and natives does not greatly attenuate the wage impact of immigration on high school dropouts. There is still a 2 to 5 percent wage loss, depending on whether one looks at the long run or short run. The scenario that does lead to a much lower negative or even positive impact of immigration on the lowest skilled workers is the one that also incorporates the possibility that high school dropouts and high school graduates are perfect substitutes.

When comparing simulated effects across education groups within a scenario, it is useful to remember that all structural simulated effects reflect a combination of the estimated parameters relating relative wages and relative labor supply across skill groups and the simulated amount of immigration-induced labor supply by skill group. Unlike in spatial and skill cell studies, the impacts cannot be separated into the amount due to the responsiveness of the skill group to changes in labor supply and the magnitude of the group's simulated labor supply change. However, the pattern

across columns in Table 5-1 does mirror qualitatively the magnitudes of the labor supply changes by education over 1990-2010, the values used in the simulation. Negative effects for natives tend to be larger for high school dropouts, the group with the largest immigration inflow, followed by those with post-college education, a group that also experienced relatively large inflows. Native high school graduates and those with some college tend to experience smaller negative effects and, indeed, under most scenarios, slightly positive effects in the long run, consistent with relatively small immigrant inflows over the period. The impacts on college-educated natives are very similar to the mean effects across education.

Key takeaway points from this simulation are that the assumptions about capital—fixed short run versus adjusted long run—and substitutability among skill groups have large effects on estimates of wage impacts. Wage effects (overall and within skill groups) are more negative in the short run than in the long run, when they are sometimes even positive. And, for both the short-run and long-run scenarios, the largest negative effects on native less-skilled workers are for the scenarios in which immigrants and natives are perfect substitutes and high school dropouts and graduates are imperfect substitutes (Scenario 1). The smallest negative effects on native less-skilled workers are for the scenarios in which immigrants and natives are imperfect substitutes and high school dropouts and graduates are perfect substitutes (Scenario 4). Indeed, under this scenario, all native groups except the postcollege-education group benefit from immigration in the long run.³⁴

5.5 A CROSS-STUDY COMPARISON OF IMMIGRANTS' IMPACT ON WAGES

As is apparent from the literature review above, the results of a given study of the impact of immigration on wages or employment are typically directly comparable to only a handful of others. Sometimes two studies are not directly comparable because the underlying methodology is fundamentally different. For example, skill cell studies estimate the effect of immigrants on the most similar natives, omitting the effect of immigrants on less similar natives that is captured in most spatial studies, while structural studies build in the assumption that average wages are unchanged by immigration in the long run and hence are essentially studies of relative wages. But often, even within a methodology, studies are not immediately

³⁴Recall, also, the all-important point that the absolute wage impact numbers are dictated by production function assumptions; only the relative wage impacts across skill groups are driven by the data. And, here too, the magnitude of the relative wage impacts is tied to the relative size of the immigrant inflows by the assumptions of the model.

comparable because of differences in the way the number of immigrants is captured. For example, the study may focus on immigrants as a share of the labor force or the share of the labor force that is of a particular skill (instrumented by the predicted immigrant inflows of that skill type). For this reason, in Table 5-2, the panel presents in terms of a common metric the results of several prominent spatial and skill cell papers discussed in this chapter, along with the largest and smallest structural impacts for all natives and for native high school dropouts, based on the results in Table 5-1. For each study, the table shows calculations of the wage effect on the indicated group of natives of an increase in immigrants that raises labor supply of the state, occupation, skill cell, or education group by 1 percent. Wage effects in bold are the coefficients reported in the source study; other coefficients were calculated by the panel as outlined in the Technical Notes in Section 5.9.

For most spatial and skill cell studies, the calculations to convert their results into the common metric are straightforward (see Technical Notes in Section 5.9), though they do involve using a particular value of the share of immigrants in the labor force. To make the studies as comparable as possible, the same value of the share of immigrants in the labor force should be used in all the calculations, even though a given study's average share will depend on the exact years of data used. To calculate the underlined values in Table 5-2, the panel set the immigrant share of the labor force at its 2000 value of 12.6 percent for those studies requiring harmonization. However, the harmonization approach for spatial and skill cell papers does not lend itself as readily to the structural studies, which involve several parameters rather than a single parameter. Nevertheless, it is useful to make a more crude adjustment to see whether the structural results are broadly in line with those of other studies, setting aside the issue of relative versus absolute wage changes. For the structural studies, the simulations reported in Table 5-1 above may be thought of as the result of a simple increase in the share of immigrants in the labor force from 1990 to 2010, rather than the result of more complex changes in different types of labor over the period. The wage effects reported in the simulations may then be divided by this increase in immigrant share to get the effect of a percentage point increase in immigrant share, a figure that may then be converted to the effect of a 1 percent increase in the labor supply, as was done for the spatial and skill cell studies. A similar exercise may be performed for Borjas (2016b) and Peri and Yasenov (2015). (See the last two subsections of Section 5.9 for Technical Notes on the panel's calculations for Borjas (2015), Peri and Yasenov (2015), and the structural studies.)

Table 5-2 confirms that there is a wide range of estimated elasticities and makes clearer than do unharmonized results which estimated elasticities are most negative and what patterns exist in the size of elasticities. Consider first the results for all natives and native dropouts (i.e., excluding

results for minorities). There is considerable variation in the findings, with results ranging from a set clustered around zero (including small positive values) to a set in the -0.8 to -1.0 range *within* each of the three approaches (with the exception of three studies noted below). Results close to zero are obtained in the spatial studies of Card (2001) for native men and women and of Cortés (2008) for native dropouts, in Card and Peri’s (2016) skill cell regressions for all native men, and also in the long-run structural models for all natives (whose results are close to zero by assumption). Results in the -0.8 to -1.0 range are those of the Altonji and Card (1991) spatial study and the structural short-run calculation for dropouts (Scenario 1, in which capital is fixed and immigrants and natives are perfectly substitutable). Two much more negative estimates (again excluding the elasticities for minorities) are Borjas’s (2016b) upper bound for native non-Hispanic men (-1.4) and Llull’s (2015) skill cell analysis for all native men (-1.7). On the other hand, the considerably more positive estimate of 0.3 is from Peri and Yassenov’s (2015) study of the same Mariel Boatlift immigration episode studied by Borjas (2015).

Some notable patterns emerge. Confirming expectations based on economic theory about which groups are most negatively affected by immigration, native dropouts tend to be more negatively affected than better-educated natives (as indicated by comparing results for dropouts with the overall results for all workers or all men or women). The results in the table also suggest that this negative effect may be compounded for native minorities. Altonji and Card (1991) found more negative results for low-education blacks than low-education whites: The coefficient for black males reported in the table is the most negative effect they reported. Cortés examined a number of groups and found the largest negative effects for Hispanic dropouts with poor English, as well as larger negative effects for Hispanic dropouts than for all dropouts. This could be because native dropout minorities are the closest native substitutes for immigrants. As the results in panel C, Structural Studies, of Table 5-2 show, the closer substitutes immigrants and natives are assumed to be (the higher σ_{MN}), the more negative the effect of immigration on natives. While not reported in Table 5-2, structural estimates that distinguish between the effects on (prior) immigrants and on natives found larger negative effects on immigrants (Table 5-1), and the relatively large negative effects found by Monras (2015) are for dropouts, *including* non-Hispanic immigrants.³⁵

Although theory predicts larger negative effects on native wages of immigrant inflows in the short run than in the long run, this pattern

³⁵The Borjas (2016b) study’s large negative effects are for male non-Hispanic dropouts, including non-Hispanic immigrants (although the latter are likely few in number and perhaps no more similar to immigrants than they are to natives).

TABLE 5-2 Effect on Native Wages of an Inflow of Immigrants That Increases Labor Supply by 1 Percent

Study	Wage Effect (%)	Which Natives
A. Spatial Studies		
Altonji and Card (1991)	-1.7	Dropouts, black men
	-1.0	Dropouts
Borjas (2016b)	-1.4	Dropouts, non-Hispanic men
	-0.5	Dropouts, non-Hispanic men
Monras (2015)	-0.7	High school graduates or less, non-Hispanic, including immigrants
	-0.6	Dropouts, Hispanic with poor English
Cortés (2008)	-0.3	Dropouts, Hispanic
	-0.1	Dropouts
	-0.1	Men
Card (2001)	-0.1	Men
	0.1	Women
Peri and Yassenov (2015)	0.3	Dropouts, non-Cuban
B. Skill Cell Studies		
Llull (2015)	-1.7	Men
Borjas (2003)	-0.6	Men
Card and Peri (2016)	-0.2	Men
Card and Peri (2016)	-0.1	Men
C. Structural Studies		
	-0.8	Dropouts
	-0.4	All
	-0.4	Dropouts
	-0.3	Dropouts
	-0.2	All
	0.1	All
	0.1	Dropouts

NOTES: Panel C, “Structural studies,” refers to the results in Table 5-1: the maximum and minimum values for the effect on all natives (except the long-run minimum value for Scenarios 1 and 3, which is zero by assumption) and on native dropouts are reported. “Dropouts” refers to high school dropouts; HS to high school or less. “10-year differences” refers to analysis relating the 10-year change in wage to the 10-year change in immigration; “fixed effects (10-yearly data)” indicates that levels rather than changes were used. All nonstructural coefficients are from instrumental variables estimates except Borjas (2003) and Card and Peri (2016), where they are the ordinary least squares (OLS) coefficients from the nonstructural estimation, and Borjas (2016b). Altonji and Card’s (1991) black native dropouts had less than 13 years of education, while the dropouts of all races had less than 12 years. The Cortés (2008) sample is of dropouts in immigrant-intensive nontraded sectors. Monras’s (2015) natives included earlier non-Hispanic

Which Immigrants	Short Run?	Note
All	—	10-year difference
All	—	10-year difference
Dropouts	Yes	Upper bound, Mariel boatlift
Dropouts	Yes	Lower bound, Mariel boatlift
HS or less, Mexican	Yes	1-year difference
Dropouts	—	Fixed effects (10-yearly data)
Dropouts	—	Fixed effects (10-yearly data)
Dropouts	—	Fixed effects (10-yearly data)
All	—	5-year difference, wage level
All	—	5-year difference, wage level
Dropouts	Yes	Mariel boatlift
All	—	IV, fixed effects (10-yearly data)
All	—	OLS, fixed effects (10-yearly data)
All	—	OLS, 10-year differences
All	—	OLS, 10-year differences
All	Yes	Scenario 1: $\sigma_{MN} = \infty$
All	Yes	Scenarios 1 and 3: $\sigma_{MN} = \infty$
All	—	Scenario 1: $\sigma_{MN} = \infty$
All	Yes	Scenario 4: $\sigma_{MN} = 20$
All	Yes	Scenarios 2 and 4: $\sigma_{MN} = 20$
All	—	Scenarios 2 and 4: $\sigma_{MN} = 20$
All	—	Scenario 4: $\sigma_{MN} = 20$

immigrants. Natives and immigrants cannot be distinguished in Borjas’s (2016b) data. The elasticity of substitution between immigrants and natives is σ_{MN} ; when it is infinite, the two groups are perfect substitutes.

Bolded figures are coefficients reported directly from the cited study; underlined figures are the result of the panel’s calculation using the paper’s coefficient and an immigrant density of $p = 0.126$, the national value for the 2000 labor force. See Section 5.9 for technical notes on these calculations and those for the structural cases and a number of other papers that do not involve $p = 0.126$ and are implicitly evaluated at a different p (though a very similar one in the case of the structural papers).

For column 5, the “short-run” designation indicates effects found over a less than 5-year span, or structural calculations with capital held fixed. The length of time required for capital, technology, and other factors to respond to unexpected or expected immigration inflows, and hence the distinction between short and long run, cannot be rigorously determined.

does not come through unambiguously in the table. The pattern is pronounced for the structural studies (see also Table 5-1), where the short run is imposed in accordance with theory by fixing the capital stock at its initial value. But the pattern is less clear in nonstructural studies. Monras's (2015) study of the 1-year effect of unanticipated inflows is clearly capturing the short run and does find a relatively large negative effect (-0.7), while Borjas's (2016b) negative elasticities based on the first 7 post-arrival years after an unanticipated immigrant inflow (-0.6 to -1.4) are also likely to be capturing a short-run effect. However, Peri and Yasenov (2015) estimated the most positive elasticity of any study (0.3), based on the first 3 years after the Mariel Boatlift examined by Borjas (2016b). This elasticity is statistically insignificant, and the authors characterize their paper as finding no negative effect rather than finding a positive effect, but their result would rule out, statistically, effects as negative as the lower bound finding of -0.6 in Borjas (2015).

Studies examining the relation between 10-year changes in immigration and 10-year changes in wages ("10-year differences")—Altonji and Card (1991) and Card and Peri (2016)—capture exactly 10 years of adjustment and hence probably also capture considerable capital adjustment. The same is true for studies using data spaced 10 years apart but not differenced ("fixed effects"), such as Llull (2015), Borjas (2003), and Cortés (2008), which capture adjustment over at least 10 years.³⁶ Card's 2001 paper examining the effect of flows over 5 years is more difficult to categorize in terms of capital adjustment. The contrasting results of studies examining the same frequency of effects suggest the importance of other factors in determining the elasticity estimated, including the methodological approach.

There appear to be some differences in elasticities by approach not accounted for by the share of studies in each looking at the long versus short term, at dropout natives versus all natives, and minority natives versus all natives. On balance, the skill cell studies find the most negative wage impacts and the structural studies the least negative, with the spatial studies in the middle; differences between approaches are of about the same order of magnitude as the variation among studies using the same approach. Below, the panel revisits some of the methodological differences discussed in Section 5.3 to see if this ranking is expected, with particular attention to the medium- to long-run time frame probably captured by most nonstructural studies.

Spatial studies can be biased either to find a positive effect (if instrumental variables do not correct adequately for immigrant location choice) or to find zero effect (if trade in goods and flows of capital and labor

³⁶Baker et al. (1999) showed that only specifications in differences clearly capture effects of a particular frequency.

distribute the effect nationally), but they will also incorporate changes in technology, technique, or sector that genuinely mitigate negative wage impacts, and they will include cross-effects of immigrants on less similar natives. The skill cell studies avoid the biases of the spatial studies, which makes them more likely to find negative effects, as they do, but they do not include cross-effects, whose overall direction (negative or positive) is unknown. Thus, it is not certain that the larger effects from skill cell studies compared to spatial studies are to be expected. All skill cell studies to date have examined the impact of immigration on men only, unlike studies using other approaches. However, other studies do not paint a clear picture of whether women or men are more vulnerable to immigration impacts, leaving it unclear as to whether the gender focus of skill cell studies explains why their estimated wage effects on natives are more negative.

The structural studies preclude any effect on overall wages in the long run, due to the choice of a production function that is assumed to remain constant over time. This rules out any overall shift up in wages due to increasing returns to scale or any immigration-induced skill-neutral technological progress, but it also precludes any overall shift down in wages due to decreasing returns to scale. Moreover, it rules out any downward pressure on dropout wages if the induced technological progress complements high-skilled workers and substitutes for low-skilled workers (though given large inflows of low-skilled immigrants, this would probably not be expected). It is therefore not easy to trace the ranking of the impact by approach back to the methodological characteristics of each.

It is useful to discuss possible reasons for the variations in estimated elasticities within each of the approaches (i.e., spatial, skill cell, and structural studies). The reasons for the variation within the structural approach are transparent: Short-run effects are larger, and effects with natives and immigrants assumed to be perfect substitutes are larger than those where they are not.³⁷ Further, as discussed above with respect to Table 5-1, assumptions about substitutability across education groups, particularly whether or not high school graduates and high school dropouts are perfect substitutes, also influence the results, with the assumption of perfect substitutability resulting in smaller estimated negative effects. Thus, as suggested by our discussion of the simulation results in Table 5-1, the value of the wage elasticities from the structural estimates in the bottom panel of Table 5-2 depends on the particular scenario being considered. One general conclusion is that the value of the wage elasticity is not as greatly affected when one only allows for imperfect substitution between natives and immigrants with the same level of education. The value of the wage

³⁷Note that rounding the elasticities to one decimal place has led to the effects of scenarios that differed slightly in Table 5-1 being reported as the same magnitude here.

elasticity for high school dropouts, however, becomes much less negative or even positive when one adds the assumption that high school dropouts and high school graduates are perfect substitutes.

The differences among studies within the spatial approach seem fairly consistent with differences in the immigrants and natives studied and whether the impact estimated is short or long run. The results of the Altonji and Card (1991) study do, however, appear more negative than expected on this basis. They may be affected by the use of an earlier and less sophisticated historical settlement-pattern instrument than was used in later studies. Additionally, some spatial studies (and some skill cell studies) investigate time periods that are long enough to capture long-run adjustments in capital and technology and in natives' human capital accumulation and to reflect increasing aggregate demand as a result of immigration. Spatial and reduced-form skill cell studies potentially capture some adjustments that the structural analyses rule out and, if the instrumental variable is ineffective, some that are unintended, such as equalization of wages spatially as a result of trade or of capital and labor mobility.

The variation within the skill cell studies may reflect both economic and econometric issues. Llull (2015) may have found a very large negative effect because the novel instrument used picks out the impact of immigrants fleeing turmoil, an immigrant category that may possibly have a more negative impact on native wages (see discussion below). The variation among the other three OLS studies appears to reflect econometric issues. Card and Peri (2016) indicated that the original Borjas (2003) skill cell elasticity of -0.6 is sensitive to changes in the form of regression used.³⁸ The OLS results should be the same whether the fixed effects or 10-year differences method is employed. Card and Peri showed that the results are considerably less negative for differences (-0.2), suggesting a problem of omitted variables or possibly that the regressions are capturing different frequency (short versus long run) effects.³⁹ Furthermore, when Card and Peri (2016) changed the immigrant variable from the (change in the) immigrant share of the labor force to the change in the number of immigrants divided by the initial labor force, the elasticity becomes close to zero (-0.1). They argued that the latter immigrant variable is superior, as it is unaffected by changes in the native labor force that might be driven by the same factors as immigration.⁴⁰ It is unclear to what degree the Llull instrumental variables elasticity is robust to these changes.

³⁸Card and Peri (2016) tested the robustness of a slightly different Borjas (2003) specification from that in Table 5-2, so their results should be compared to a harmonized elasticity from Borjas (2003) of -0.5 .

³⁹See Baker et al. (1999).

⁴⁰Borjas (2014a) argued that the share specification is superior because the relation between the wage and immigration-induced percentage increase in labor supply is highly nonlinear.

Llull's (2015) skill cell study has the most negative elasticity of any study (-1.7), which raises a possibility not considered thus far: that the impact of immigrants may vary according to the reason for their migration to the United States. His addition of instrumental variables estimation triples the size of the OLS effect found by Borjas (2003), and his choice of instruments may help inform why instrumental variables raise the magnitude so much. All other instrumental variables studies in the table use an instrument based on historical settlement patterns, which means that the estimated effect is that of immigrants who chose their U.S. location to be close to their co-ethnic predecessors (this is called the Local Average Treatment Effect) and who may therefore be disproportionately composed of immigrants who have been encouraged to come to the United States by family ties. Llull used forced migration as an instrument for the share of immigrants in a skill cell. Economic or political turmoil or natural disasters in the origin country provide random variation in immigration that is not related to better employment opportunities in the destination. His estimates therefore reflect the impacts of immigrants fleeing acute problems and for whom family ties may be less important. This raises the possibility that such immigrants have a more negative effect on natives than do immigrants encouraged by family ties, particularly if their arrival is less likely to be anticipated. An alternative interpretation is that the traditional spatial studies' instrument based on where earlier settlers settled is simply invalid because those earlier settlers settled in high-wage cities.

An important point is that, while Table 5-2 suggests which native wages are more susceptible to a given immigration inflow, what the table does not show is that native groups differ in the magnitude of immigrant inflows they face. For example, since native dropouts experience a larger immigrant-driven labor supply increase than do natives overall (see Chapter 4), their greater susceptibility to immigration is compounded by higher inflows.

The results of these comparative exercises remain consistent with *The New Americans* (National Research Council, 1997) in suggesting that, particularly when measured over a period of 10 years or more, the impact of immigration on the overall native wage may be small and close to zero. However, estimates for subgroups span a wider range and suggest some revisions in understanding of the wage impact of immigration since the 1990s. At that time, the authoring panel's conclusion that "immigration has had a relatively small adverse impact on the wage and employment opportunities of competing native groups" seemed to summarize well what the academic studies indicated. However, the intensive research on this topic over the past two decades, summarized in Table 5-2, displays a much wider variation in the estimates of the wage impact on natives who are most likely to compete with immigrants, with some studies suggesting sizable negative wage effects on native high school dropouts. In addition, the

recent literature is in agreement with *The New Americans* in finding larger negative effects for disadvantaged groups and for prior immigrants than for natives overall, when those effects are examined separately. (Results for prior immigrants are not shown in Table 5-2 but were reviewed earlier in Section 5.3.) Thus, the evidence suggests that groups comparable to the immigrants in terms of their skill may experience a wage reduction as a result of immigration-induced increases in labor supply, although there are still a number of studies that suggest small to zero effects.

5.6 HIGH-SKILLED LABOR MARKETS AND INNOVATION

Much of the research on the impact of immigrants focuses on the inflow of immigrants with low education and skills. Immigration patterns for the United States drive some of this emphasis because new arrivals are disproportionately represented in lower educational attainment segments of the population. As of 2011, ACS data show that nearly one-third of foreign-born individuals in the United States do not have a high school diploma and about 23 percent have a high school diploma and nothing beyond (Orrenius and Zavodny, 2014).⁴¹ It is therefore often presumed that the majority of immigrants will enter low-skilled labor markets, and this is where fear has been expressed that natives' job opportunities will be lost. However, as discussed in Chapters 3 and 6, another sizable concentration of immigrants is in high-skilled educational categories, and in recent decades immigrants have become overrepresented in certain occupations—for example, computer software developers, medical scientists, registered nurses, teachers, accountants, computer systems analysts, and physicians—requiring high education and skill levels.⁴² ACS data also show that, as of 2011, 27 percent of the foreign-born have a college degree or higher, compared with just over 28 percent for natives, and 29 percent of workers in the U.S. economy with doctoral degrees are foreign-born. Reflecting these trends, researchers considering the overall impact of immigration on wages and employment have become increasingly interested in what is happening at the high end of the skills spectrum. Consideration of the impact on natives of high-skilled immigration raises some similar questions to those considered earlier for less-skilled immigrants. But in addition, new questions arise in the context of high-skilled immigration: High-skilled immigrants may innovate, or help natives innovate, and more generally may have positive spillovers on native productivity.

⁴¹See Chapter 3 for a more detailed breakdown of education attainment of immigrants.

⁴²See Orrenius and Zavodny (2014). The fact that a large share of immigrants is highly skilled is not new. Immigrants have always had a bimodal distribution by education. That the high end is *overrepresented* relative to natives is, however, a new development.

Technological progress is a key driver of productivity growth and ultimately of economic growth (Griliches, 1992). If immigrants innovate and advance technology, they therefore increase the growth rate of native income in addition to raising its level. Jones (2002) estimated that 50 percent of U.S. total factor productivity (TFP)⁴³ growth in recent decades is attributable to scientists and engineers. One way high-skilled immigrants could increase technological innovation is through a greater concentration than natives in science and engineering occupations. Immigrants are likely to be overrepresented in such occupations, since scientific and engineering knowledge transfers easily across countries; it does not rely on institutional or cultural knowledge, is not associated with occupations with strict licensing requirements like the practice of medicine, and does not require the sophisticated language skills of a field such as law (see Chiswick and Taengnoi, 2007; Peri and Sparber, 2008). High-skilled immigrants could also increase innovation if a combination of immigration policies and immigrant self-selection leads them to be more educated or of higher inventive ability. Even immigrants who do not innovate themselves may increase innovation by providing complementary skills to inventors, such as entrepreneurship. On the other hand, because natives are likely to respond to the arrival of immigrant innovators, any immigrant contribution to innovation is unlikely to be simply additive. Potential native innovators could be deterred by the additional competition or could be attracted by the possibility of collaboration.

These considerations make studies of immigrant innovation and entrepreneurship, and of skilled immigration more generally, of great interest and importance. In this section, after providing background on the visa pathways available to skilled immigrants, the panel examines the effect of high-skilled immigration on native wages and employment. We then review the effect of immigration on innovation followed by the effect of immigration on entrepreneurship. While research in this area is quite recent, there is very little to suggest that wages are driven down or that native workers are displaced in high-skilled occupations; the evidence is stronger, though still inconclusive, that the direction of any impacts is at least modestly positive. The innovation literature as a whole indicates that immigrants are more innovative than natives and increase innovation per capita, thus likely boosting economic growth per capita. Immigrants appear to innovate more than natives not because of greater inherent ability but due to their concentration in science and engineering fields.⁴⁴

⁴³TFP is defined as that portion of output not accounted for by the amount of capital stock and (quality-adjusted) labor force used in its production.

⁴⁴Borjas (2014a) and Kerr (2013b) also reviewed this literature.

Visa Pathways for High-Skilled Immigrants

Foreign-born workers with a bachelor's degree or equivalent initially move to the United States either on a temporary visa or as a permanent resident. A worker who enters as a permanent resident may do so as a relative of a U.S. permanent resident or citizen, sponsored by an employer as an EB-1, EB-2, or EB-3 worker considered particularly qualified, or on an EB-5 investor's visa. Permanent residents are free to change employer. Temporary work visas are issued to the foreign worker's U.S. employer to hire him or her specifically: The worker is not free to choose an employer on arriving in the United States, faces barriers to changing employer after arrival, and may not become self-employed (or start a company) nor become unemployed. Those who enter on temporary visas may succeed in obtaining permanent resident status by marrying a U.S. citizen or through their employer's sponsorship. Some foreign-born workers initially enter the United States as students or trainees on F-1 visas and take advantage of the Optional Practical Training period permitting up to a year and a half of work, and/or they obtain another status after graduation.⁴⁵ Individuals who enter as dependents of temporary visa holders and may be unable to work initially gain permanent residence if their family member does.

Because those entering as permanent residents typically stay longer in the United States than do those entering on temporary visas, the initial visa composition of new entrants is different from that of the stock of workers at a given point in time. The National Survey of College Graduates shows that, in 2013, 38 percent of foreign-born, college-educated workers had entered with lawful permanent residence, 16 percent on a temporary work visa, 25 percent on a student or trainee visa, 11 percent as the dependent of a temporary visa holder, and 9 percent on other temporary visas.

The two most common entry work visas are the intracompany transferee visas (L-1A and L-1B), whose numbers are uncapped and are for 1-3 years, renewable for a maximum stay of 5-7 years, and the specialty worker (H-1B) visas, whose number is capped (in the for-profit sector) and which are issued for 3 years, renewable once. Both are "dual intent" visas, meaning the employer may sponsor the worker for permanent residence. Intracompany transferees have been transferred to the United States by an employer for whom they have worked abroad for at least a year. Some skilled workers also enter as a J-1 exchange visitor, although the number of J-1 holders who are skilled is not known.⁴⁶ As discussed below, while

⁴⁵For a detailed description of visa types, see <https://www.uscis.gov/working-united-states/working-us> [November 2016].

⁴⁶See Wasem (2016) for information on less common temporary work visas for skilled workers.

H-1B visa holders have been subject to much scrutiny, despite imperfect data, there has been much less analysis of L-1 visa holders.

Impact of High-Skilled Immigration on Wages and Employment

As noted previously, the impact of high-skilled immigration on native wages and employment has been the focus of less attention than the impact of low-skilled immigration. However, in part due to the substantial and rising share of high-skilled immigrants, as well as the possibility of positive spillovers from this group, increasing attention has focused on them. Much of this research employs the spatial approach. As elsewhere in the spatial literature, it is difficult to identify the causal effect of skilled immigration—again, reverse causality or unobserved common factors may confound results. For example, wage increases for natives may lead to increased growth of immigration by STEM workers—so again, the potential for results to be contaminated by locational choices persists.⁴⁷ Analyses must address the possibility that cities with rapid productivity growth will experience wage growth and (for nonobservable reasons) will also attract foreign STEM workers.

A study by Peri et al. (2015a) devised an instrument to address the endogeneity problem, apportioning the changing national-level number of H-1B visas to cities based on the 1980 distribution of foreign-born STEM workers, thus combining the identification methods of Card (2001) and Kerr and Lincoln (2010).⁴⁸ Their study period, 1980 to 2010, is especially dynamic because college-educated STEM workers grew from 2.4 percent of total employment to 3.2 percent over the period, and foreign-born workers were responsible for more than 80 percent of this growth. The authors found that a rise in foreign-born STEM workers by 1 percentage point of a city's total employment (close to the total increase over the period) increases the real wages of college-educated natives by 7 to 8 percent and those of noncollege-educated natives by 3 to 4 percent (Peri et al., 2015a, p. 3). The effect on the native employment rate was not statistically significant. These results are consistent with a positive effect of inflows of foreign-born STEM workers on the wages of both college-educated and, to a lesser extent, noncollege-educated natives. However, the very large estimates of

⁴⁷Controlling for factors such as native response may be especially important in this context, given that high-skilled labor markets are likely to be national and even international in spatial scope.

⁴⁸To ensure that this is an effective instrumental variable, the authors tested to confirm that “the initial (1980) distribution of other types of foreign-born workers (e.g., less educated and manual workers), the initial industry-structure of the metropolitan area, and the subsequent inflow of non-STEM immigrants do not predict growth in foreign STEM workers” (Peri et al., 2015a, p. 3).

this wage increase raise the possibility that there may be additional factors driving the determination of wages in high-skilled labor markets that are not captured by this approach.

Other studies of the impact of high-skilled immigration on wages and employment analyze the impact on specific groups of native workers. Because around half of workers receiving H-1B visas in recent years have been hired to work in computer occupations, these jobs are the most likely to be negatively impacted by an inflow of skilled immigrants. To examine this, Peri et al. (2015b) took advantage of the fact that H-1B visas were allocated via lottery in 2007 and 2008. Some cities appeared to satisfy less of their firms' demand for H-1B workers than did others, although the city demand for H-1B visas has to be proxied by firms' preliminary expressions of interest, which are much more numerous than actual applications. The authors found that the more a city's demand for H-1B workers outstripped the visas its firms won in the lottery, the lower the city's employment and wage growth for native-born workers in computer occupations. They inferred that H-1B workers do not displace but rather complement natives in computer-related occupations.⁴⁹

These positive estimated effects on native wages (Peri et al., 2015a, 2015b) and employment (Peri et al., 2015b) are consistent with high-skilled immigrants' being complementary with natives, especially high-skilled natives; with human capital spillovers stemming perhaps from interactions among workers; or with skilled immigrants innovating sufficiently to raise the productivity of all workers. For example, highly educated hires may stimulate the productivity of natives—at least in the computer-related occupations studied—incentivizing firms to expand hiring. This type of mechanism is also explored in important research by Moretti (2010), who found that each job in the tradable high tech sector (making products that need not be consumed locally) generates between 0.5 to 2 additional jobs in the local economy. Immigrant innovation is considered in detail later in this section (Section 5.6).

However, not all studies find beneficial wage and employment effects of skilled immigrants. Borjas (2009) examined the correlation between immigrant share and the earnings of doctorate-holders by doctoral cohort and discipline. He estimated wage elasticities of -0.24 to -0.31 , where these elasticities indicate the percentage change in earnings associated with a 1 percent change in labor supply due to immigration. The larger estimate (absolute value) was obtained when the elasticity was calculated using only the sample of foreign-born doctoral recipients that intended to stay in the United States. In addition, Borjas and Doran (2012) examined

⁴⁹In contrast, a study by Doran et al. (2015) found that firms' employment of H-1B workers did tend to crowd out firms' employment of other workers.

the impact of the arrival of 336 Soviet émigré mathematicians after the collapse of the Soviet Union. They found that American mathematicians in subfields with active émigrés were published and cited less after 1992 and were more likely to move to lower-quality institutions and out of active publishing.

Do Natives Change Field or Occupation in Response to Skilled Immigration?

One reason many high-skilled natives may not be harmed by high-skilled immigration, especially over longer time periods, is that they may shift into other fields in which they have a comparative advantage due, for example, to qualifications or language skills or in which they are complementary to immigrants. Such shifts would increase the economy's productivity via greater specialization and would constitute one of the benefits of immigration. Peri and Sparber (2011) provided evidence that inflows of highly educated immigrants cause natives to switch to more communication-intensive occupations. Cortés and Pan (2014) found that U.S. states with the highest flows of foreign-born nurses experienced decreased numbers of natives entering the profession and sitting for licensing exams; the researchers detected an offsetting increase of similar size in the numbers of natives entering teaching professions in these states. They used an instrument based on historical immigrant flows for foreign nurses. Borjas (2007) employed a fixed effects panel of universities over time to study the effect of foreign-born graduate students on native-born graduate student enrollment. He did not find evidence of a crowd-out effect for the typical native, but there was a strong negative correlation between increases in the number of foreign-born students enrolled at a particular university and the number of white native-born men in that university's graduate program.

The possibility of natives changing occupation or field of study has been of particular interest in the context of immigrants' effect on innovation. Consequently, a number of papers ask whether skilled immigration causes natives to leave or fail to enter STEM fields. Orrenius and Zavodny (2015) examined whether native-born bachelor's students pick a science or engineering major. The covariates of interest measure the concentration of immigrants in college as well as the concentration of immigrants when the natives were of high school age, and the instruments are variants of the historical settlement pattern instrument. They found that the presence of immigrants deterred some native-born women from choosing a science or engineering major; this effect was not found for native-born men. Some evidence of native response to immigrants entering STEM fields was also found by Bound et al. (2015). Using a structural model, the authors estimated that native employment in computer science would have been

7.0-13.6 percent higher in 2004 absent increased immigration after 1994; they also found wages for computer scientists would have been 2.8-3.8 percent higher. However, they found that *total employment* in computer science would have been 3.8-9.0 percent *lower*. This is consistent with the possibility that immigration increased software innovation, although this is of course hard to measure.

Another reason that an increase in the numbers of high-skilled immigrants in the labor market may not lead to lower overall employment or wages of highly educated natives is positive productivity effects, or spillover effects whereby technological progress is spurred through the creation and diffusion of knowledge and innovation. This topic is discussed below.

Theoretical Considerations Relevant to Innovation

As explained in Borjas (2014a) and discussed above, it is high-skilled immigrants' potential positive externalities, rather than the simple fact that they are more productive individually than low-skilled immigrants, that distinguish their impact on natives from that of other immigrants. Innovation is the channel through which immigrants could potentially have the largest positive externality. Innovation, whether by natives or immigrants, eventually enters the public domain and increases the productivity of workers not linked through the market to the original innovator. Immigrant innovators may also have a positive externality on native innovators, which could magnify the externality due to their own innovation.

However, the arrival of a certain number of innovative immigrants is not likely to boost the number of innovators in the country by the same number. Some innovative immigrants will not enter innovative work, while innovative natives will respond to the immigration. Some natives may leave innovative work to exploit the increase in their comparative advantage in language-intensive work (Peri and Sparber, 2009). Conversely, if immigrant innovators render native innovators more productive, the number of native innovators could rise. Studies of the effect of immigration on innovation must take these responses into consideration when judging whether immigration is likely to have boosted economic growth rather than simply having caused a one-time increase in efficiency.

Methodological Considerations for the Impact of Immigration on Innovation

Many of the methodological concerns relevant for the impact of immigrants on innovation are the same as those relevant for the impact on wages and employment, especially the endogenous pattern of immigrant density across the units of observation. One dimension along which studying inno-

vation is trickier is measurement: most studies proxy for innovation with patents, while some compute TFP⁵⁰ and assess the effect of immigration on productivity. Patent counts measure inventions, a type of knowledge with the potential to increase TFP, but not all inventions are patented and not all innovation comes in the form of inventions. Innovative business practices are not inventions, for example, while innovative software became patentable in 1995 amid debate about whether a software innovation constitutes an invention (see Hall and MacGarvie, 2009). Furthermore, patents vary greatly in terms of quality, though future citations to patents provide a guide to quality. On the other hand, the measurement of TFP is fraught with difficulties such as the specification of the correct production function and further measurement issues such as the rate at which capital depreciates (Aiyar and Dalgaard, 2005).

Conversely, along a second important dimension, studying the impact on innovation is more straightforward than studying the impact on wages. While the presumption of factor price equalization (or at the least, factor price insensitivity) through interregional trade means that the effect of local concentrations of immigrants on wages is likely to be national in part, and not purely local, there is no equivalent of this constraint for patents; whereas the benefits of innovation diffuse across the country, the location of the original inventor does not. Nor would a response of capital flows equalize patenting across regions. The adjustment mechanism that does remain is geographic mobility of native innovators reacting to any immigration-induced changes in innovator wages. If immigrant innovators have negative effects on native innovator productivity and wages in their region, native innovators will avoid immigrant locations. This native relocation will lead a spatial identification approach to underestimate the benefit of immigration. Nevertheless, the forces for national diffusion of innovation responses are weaker than for the diffusion of wage responses. The implication is that using spatial variation in immigration to identify the effect on patenting is subject principally to the endogeneity problem of immigrants possibly choosing their location based on the outcome variable. Studies focusing directly on productivity, however, are subject to problems similar to wage studies: a bias toward finding no effect remains even if immigrant location is successfully instrumented, due to the forces equalizing labor market conditions across regions.

Are Immigrants More Innovative Than Natives?

Immigrants are most likely to increase innovation if they are themselves more innovative than natives, making an individual-level comparison of

⁵⁰TFP is defined above, in the introduction to Section 5.6.

immigrants and natives the logical first step. At least as measured by patents, immigrants do innovate considerably more than natives. Using the 2003 National Survey of College Graduates (NSCG), Hunt (2011) showed that among individuals with a bachelor's degree or higher, immigrants are twice as likely to patent as natives, while Kerr (2007) documented the rapid rise from 1975 to 2004 of U.S. patents authored by U.S. residents with Indian and Chinese first and last names: from 2 percent to 9 percent of all patents for Chinese names and from 2 percent to 6 percent of all patents for Indian names. Kerr could not distinguish first and second generation immigrants, but this growth is nevertheless fundamentally fueled by immigration.

More specifically, the Hunt (2011) study showed that 0.9 percent of natives, compared to 2.0 percent of immigrants, had been granted a patent in the previous 5 years. One measure of the quality of these patents is whether they have been licensed or commercialized; 0.6 percent of natives compared to 1.3 percent of immigrants had licensed or commercialized a patent granted in the previous 5 years. All these differences were statistically significant. She also found that, conditional on having at least one patent, immigrants and natives had similar numbers of patents.

Hunt's dataset is one of the few with visa information, and she found that the particularly innovative immigrants were those who entered on a temporary worker visa or a temporary student visa (especially as a graduate student or postdoctoral fellow). It seems that foreign-born workers or students chosen by a firm or university were more innovative than those who entered on a green card, most of whom were joining family in the United States and who patented at levels similar to natives. Hunt also investigated the source of the immigrant advantage and found that the immigrants' edge was due to their being much more likely to have studied science or engineering as a highest degree and to a lesser extent to their having higher education than natives. Her comparison among immigrants and natives with similar fields of study and level of education did not yield any statistically significant differences in patenting.

Do Immigrants Increase Innovation?

The superior innovative performance of immigrants, as measured by instruments such as rates of patenting, does not, however, necessarily imply that immigration increases innovation, since natives are likely to change their behavior in the face of immigration and could reduce their own innovation. One of several studies that tackled the more difficult issue of overall innovation is that of Hunt and Gauthier-Loiselle (2010), who used census and U.S. Patent and Trademark Office (USPTO) data to form a panel of states from 1950 to 2000. The key explanatory variable, the intercensal

change in the share of a state's population that is skilled immigrants, is endogenous: High-skilled workers are more likely to migrate to states that are experiencing positive shocks to innovation, either narrowly or as part of more general skill-biased technological change, unobservable to the econometrician. Like many authors of wage impact studies, Hunt and Gauthier-Loiselle used an instrument based on historical immigrant settlement patterns: in this case, the 1940 settlement pattern.⁵¹

The results showed that influxes of high-skilled immigrants—those with either at least a bachelor's or master's degree or those working in science and engineering occupations—statistically significantly increased patenting per capita. A 1 percentage point increase in the immigrant college graduates' population share increased patents per capita by 9-18 percent, with the larger effects resulting from the instrumental variables analysis. This means that the net result of the immigrants' own innovation, any native movements in or out of innovative jobs, and any effect of immigrants on the productivity of native innovators was positive. The magnitudes are such that the increase in skilled immigration in the 1990s can account for one-third of the large patenting increase in that decade. In turn, this additional patenting may have increased GDP per capita by 1.4-2.4 percent by the end of the decade.

Immigrants may also increase native patenting, but because U.S. patents do not note the birthplace of the inventor, Hunt and Gauthier-Loiselle (2010) could not directly examine this question. However, calculations of the immigrant contribution based on the individual-level 2003 NSCG suggest that the state panel must reflect considerable positive effects on native patenting. But the standard errors for the calculations are large, and the individual-level immigrant contribution may not always have been at its 2003 level.

Most other papers study the effect of more specific groups of immigrants than Hunt and Gauthier-Loiselle (2010). Kerr and Lincoln (2010), for example, used USPTO patent data and CPS data to form a panel of cities for 1995-2008, but they examined the effect on patenting of increased numbers of workers entering the United States on H-1B visas. Hunt (2011) suggested that these workers are indeed very likely to patent. The difficulty is that the distribution of H-1B holders by states is unknown and must be proxied for by using the number of preliminary applications, Labor Condition Applications, or simply noncitizen immigrants, which introduces measurement error into the regression. Identification of the effect comes from variation in the initial share of the population that is on H-1Bs, interacted

⁵¹A potential issue with this approach is that if controls do not account for state-specific patenting shocks that are very persistent and influence national inflows of particular immigrant groups, the instrument could be correlated with the error term. Though this does not seem likely, it cannot be ruled out, for example, that California has had serially correlated positive patenting shocks that caused low-skilled Chinese to settle there before 1940 but that have motivated high-skilled Chinese to move to the United States in more recent years.

with the change in the H-1B national cap—under the assumption that a state’s increase is greatest where the initial share is greatest.

Kerr and Lincoln (2010) found that an increase in the national H-1B cap statistically significantly increased patenting in cities with many H-1B holders compared to cities with fewer H-1B holders. A 10 percent increase in the cap was associated with a 0.3-0.7 percent increase in patenting for each standard-deviation change in a city’s share of H-1Bs. The magnitude of these results is not easily comparable with those of Hunt and Gauthier-Loiselle (2010). Kerr and Lincoln found that immigrants had little or no effect on the patenting of those with Anglo-Saxon names, who were disproportionately natives. This contrast with the Hunt and Gauthier-Loiselle findings could be attributable either to imperfections in one or both studies relevant to measuring this externality or to the focus by Kerr and Lincoln on short-term effects, whereas Hunt and Gauthier-Loiselle focused on long-term effects.

In contrast to the studies described so far, Doran et al. (2015) found no contribution to patenting from H-1B visa holders. Specifically, they found that relative to firms that lost the 2006 and 2007 H-1B lotteries, winning firms had no increase in the number of patents in the 9 years following their acquiring the H-1B workers. The use of a lottery makes the identification in this study methodology particularly clean.

The differing results across these studies may reflect immigrant heterogeneity generally and among H-1B workers in particular. A large share of the H-1B inflows consists of young computer programmers working for information technology software services firms; often both firm and worker are Indian.⁵² Such workers tend to stay only a short time in the United States⁵³ and reflect U.S. participation in Mode 4 of the General Agreement on Trade in Services;⁵⁴ these workers are not expected

⁵²For example, in FY 2006, about one-half (51%) of first-time H-1Bs were awarded to computer programmers; 69 percent of first-time H-1B visas were awarded to workers ages 25-34; and 54 percent of first-time H-1B visas were awarded to Indians. See U.S. Citizenship and Immigration Services data at <https://www.uscis.gov/tools/reports-studies/immigration-forms-data> [May 2017].

⁵³Clemens (2010, p. 14) reported that for a large Indian software services firm making great use of the H-1B program, typical U.S. assignments last 6-15 months (though it is common for H-1B winners to return to India, then later take another H-1B assignment in the United States).

⁵⁴This trade agreement took effect in January 1995 and is binding on all members of the World Trade Organization, which was established on the same date. Mode 4 concerns the supply of a service by a service supplier of one member, through the presence of natural persons of a member. The United States committed to permitting temporary work permission for intracompany transferees from abroad (an unlimited number of L-1 visas) and for 65,000 specialty occupation workers (H-1B visas). See <https://www.uscis.gov/tools/reports-studies/immigration-forms-data> [May 2017].

to innovate.⁵⁵ Such workers are a large share of the flows that drive the results reported by Doran et al. (2015), but they are a much smaller share of the stocks of immigrants who entered on temporary work visas and were found to be so innovative by Hunt (2011). A cross-section such as that used by Hunt (2011) implicitly weights immigrants according to the duration of their stay in the United States.

Two other papers examine fascinating cases of high-skilled immigration and its effect on innovation. Using a clever identification based on the different specializations of American and Soviet mathematicians, Borjas and Doran (2012) showed that American mathematicians' research was reduced by the arrival of Russian mathematicians after the Cold War but that total U.S.-based mathematical research remained approximately constant. In contrast, Moser et al. (2014) showed that German Jews who fled to the United States in the 1930s greatly boosted patenting in chemical fields. They found that the German Jews increased native patenting by attracting to their subfields natives who would otherwise not have patented, while reducing the patenting of natives already in the field. As with Doran and colleagues, their instrument exploits differences in specialization—in this case between German Jews and American chemists. Both of these studies examined the impact of exceptionally skilled immigrants, and one would not necessarily expect to find similar impacts of immigration from, for example, recent immigrants in the H-1B program.

A quite different approach is to measure the effect of immigration on productivity directly. The advantage of this approach is that productivity is the economists' ultimate interest, while the disadvantage is that productivity is difficult to measure and innovations improving productivity diffuse across the country. The measure of productivity most closely linked to innovation is TFP. Measuring TFP involves modeling output by selecting a production function for the economy—a difficult exercise—and measuring the values of inputs, which involves judgments on matters such as the rate of depreciation of capital. TFP is measured as the residual in the modeling exercise and is sensitive to modeling and measurement choices, so this type of evidence cannot provide conclusive proof of an immigration impact on productivity.

Peri (2012) measured state-level TFP for a panel of states and linked this directly to immigration, using as an instrument historic settlement patterns (similar to Hunt and Gauthier-Loiselle, 2010) or distance to the Mexican border. Peri et al. (2015a) calculated the effect of immigrant science

⁵⁵Computer science graduates in general do not patent more than do workers outside science and engineering (Hunt et al., 2013), but innovation in computer science may often be more akin to improved business organization than invention and hence poorly captured by patent counts.

and engineering workers (unusually broadly defined) on TFP by combining effects on wages and employment, described above, with the assumption that the capital to labor ratio is constant in the long run. Both papers (Peri, 2012; Peri et al., 2015a) found that immigration increases TFP.

Do Immigrants Foster Growth Through Entrepreneurship?

For inventions to speed growth, they must be brought to market. Inventiveness and business acumen are therefore complementary inputs to technology-spurred productivity growth. These inputs may be embodied in a single person or may be combined through collaboration among two or more people. New inventions are often best developed and marketed in new firms, making entrepreneurship a particularly important type of business acumen in this context.⁵⁶ Baumol (1993, p. 260) argued that, just as capital investment and human capital may be treated as endogenous to economic growth, “[t]o some degree, the same story can be told about the exercise of entrepreneurship, investment in innovation, and the magnitude of activity directed to the transfer of technology. These too, clearly, are influenced by past productivity growth achievements and they also, in their turn, influence future growth.” A link can be made between the literature on entrepreneurship and endogenous growth theory (Lucas, 1988) by recognizing that an expanded capacity for entrepreneurial ability is a form of human capital. Schultz (1980, p. 437) stated that “. . . the abilities of entrepreneurs to deal with the disequilibria that are pervasive in a dynamic economy are a part of the stock of human capital. . . . An innovation by a business enterprise (Schumpeter’s innovator) is an endogenous event.”⁵⁷

Researchers interested in economic growth as well as in entrepreneurship and business formation frequently examine the rate at which immigrants open new firms. Fairlie and Lofstrom (2015) used ACS data from 2006 to 2010 to calculate that the 2.4 million immigrant business owners (defined simply as the self-employed, with or without employees) made up a slightly higher share of all business owners (18.2%) than their share of the total U.S. workforce (16.3%). This translates into slightly higher business ownership among immigrants than among natives: 11.0 percent of immigrants and 9.6 percent of natives owned a business in this dataset.

⁵⁶Wennekers and Thurik (1999, p. 46) described entrepreneurship as the “manifest ability and willingness of individuals, on their own, in teams, within and outside existing organizations, to: perceive and create new economic opportunities (new products, new production methods, new organizational schemes and new product market combinations); and to introduce their ideas in the market, in the face of uncertainty and other obstacles, by making decisions on location, form and the use of resources and institutions.”

⁵⁷See also Acs et al. (2012).

However, there are variations in entrepreneurship by immigrants' country of origin, as well as by industry. Indian immigrants are the most entrepreneurial of any group including natives, and immigrant businesses represent more than a quarter of businesses in the transportation, accommodation, and recreation and entertainment sectors.⁵⁸

Monthly business startup data constructed from matching respondents across months in the 2007-2011 CPS were used by Fairlie and Lofstrom (2015) to estimate that immigrants represented 24.9 percent of new business owners, a figure much higher than the 15.6 percent of the nonbusiness-owning population immigrants represent. This finding seems at odds with the fairly similar overall self-employment rates found for immigrants and natives. One possibility is that the more recent immigration cohorts were more entrepreneurial than either natives or earlier immigrants, which should eventually lead to a larger difference in the stock of self-employed. Figure 5-3, which shows that the immigrant self-employment rate has risen relative to the native rate since 2000, is consistent with this possibility. Alternatively, higher business startup rates could imply a higher failure rate for immigrant entrepreneurs. Consistent with immigrant businesses being younger, they are also smaller: Using data from the 2007 Survey of Business Owners, Fairlie and Lofstrom (2015) found that immigrant-owned firms had \$434,000 in average annual sales and receipts compared with \$609,000 for nonimmigrant firms.

Business owners' level of education may also be used as a measure of the likely contribution of businesses to the economy. Fairlie and Lofstrom (2015) reported that, while immigrants are highly overrepresented among owners with less than a high school degree, at almost 45 percent, they also represent 15.7 percent of owners with a college degree. However, the latter share may overstate the value of immigrants' contribution if immigrants turn to self-employment because their foreign education and experience are less valuable, or less valued, than American education and experience (Borjas, 1986; Fairlie and Meyer, 1996; Portes and Zhou, 1996), rather than because of an innovative business idea. For example, Akresh (2006) found that 50 percent of immigrants experienced occupational downgrading⁵⁹ on arrival in the United States. While showing that immigrants contribute significantly to self-employment, data representative of the population thus do

⁵⁸For theoretical and empirical analysis of the clustering of immigrant and ethnic groups in particular types of self-employment, see Kerr and Mandorff (2015). Kloosterman and Rath (2001) focused on small business formation in nontradable sectors such as lower-end retailing and restaurants.

⁵⁹As characterized by the author, this term refers to transitions by immigrants into jobs for which they are overeducated or overqualified and which may entail a loss of occupational status or prestige relative to the job they held in their country of origin.

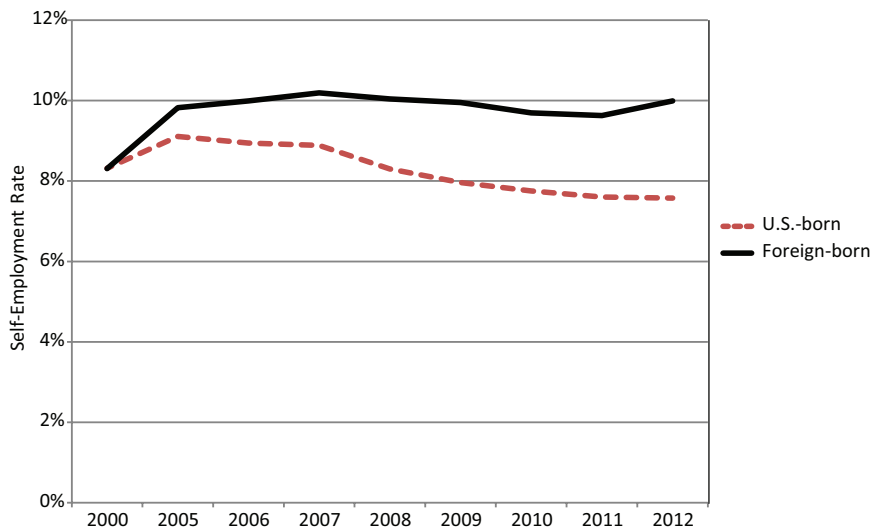


FIGURE 5-3 Self-employment rates by nativity, 2000-2012.

SOURCE: Magnus Lofstrom, Immigrant Entrepreneurship (presentation to the panel) based on Current Population Survey data, July 29, 2014.

not show clearly the contribution of immigrant entrepreneurs to successful (in terms of size or growth) or innovative firms.

To pinpoint immigrant contributions to innovative entrepreneurship, better data are required. Currently, it can be difficult to distinguish between the self-employed who have a small number of employees and those that do not, or between businesses that are innovating and those that are not. The smaller average size of immigrant businesses may obscure a pattern in which immigrants disproportionately start small, noninnovative businesses that are less likely to grow as well as successful, eventually large, innovative businesses. There are hints that immigrants disproportionately start very successful businesses, suggested by high-profile examples of public U.S. companies with foreign-born founders, such as Google, eBay, Yahoo!, and Sun Microsystems. In a sample of 1,300 “high-impact” technology firms and 2,000 founders across the United States, Hart and Acs (2011) found that around 16 percent of firms have at least one immigrant founder. Wadhwa et al. (2007) found that immigrants started 25 percent of new high tech companies with more than \$1 million in sales in 2006, while Anderson and Platzer (2006) found that immigrants represented 25 percent of founders of recent public venture-backed companies. Qualitative studies such as Saxenian (1999) also emphasize the large immigrant contribution to technology startups.

Using the 2003 NSCG, Hunt (2011) was also able to narrow the focus to fast-growing startups. Like many surveys, the NSCG includes questions on firm size and self-employment, which permit a distinction between the self-employed with more than 10 employees and the self-employed with fewer than 10 (including none). Hunt (2011) took advantage of unusual additional startup information in the NSCG to examine the probability of founding a firm that grew to more than 10 employees in 5 years. She found that, conditional on characteristics, immigrants are 30 percent more likely to found such firms than are similar natives. In an unconditional comparison between all immigrants and all natives, the result is the same in sign and magnitude, but statistically insignificant: The rarity of the outcome (0.6% of native respondents founded a firm that met the condition) makes standard errors large in all regressions and also precludes investigation of the startup's industry or the founder's patenting activity.

A literature overlapping with the immigrant business formation and entrepreneurship literature examines links between immigrants and their home countries. For example, Saxenian (2002) described a phenomenon she called "brain circulation." As high tech entrepreneurs first migrate to the United States for some combination of education, business experience, and innovation experience, they found technology companies or affiliates at home while maintaining or increasing U.S. ties. Kerr (2008) quantified the positive links between immigrant patenting in the United States and labor productivity and manufacturing (especially high technology) output in immigrants' home developing countries, while Foley and Kerr (2013) showed that an increase in a multinational company's patenting by workers of a particular ethnicity was followed by greater investment by the company in the home country corresponding to the ethnicity. Studies of whether immigrants boost trade between the source and destination country also have implications for growth and entrepreneurship (Gaston and Nelson, 2013).

Immigrants may increase international trade in two ways. First, they may have a taste for goods available only in the home country, which stimulates demand for imports directly and also indirectly as natives acquire a taste for the same foreign goods. Second and more relevant for this section, immigrants know the markets in their home country and maintain business ties there founded on trust and social capital. These ties and knowledge can reduce the problems of incomplete contract enforcement and asymmetric information that constitute barriers to trade. The empirical literature in this area is less sophisticated in dealing with potential endogeneity than other literatures related to immigration. The most rigorous paper examining the United States, Bandyopadhyay et al. (2008), confirmed the results of the wider literature by finding that U.S. states that received an increased number of immigrants from a particular source country increased their exports

to that country. Andrews et al. (2015) confirmed these results for Germany using firm-level data. However, the possibility that a common third factor is increasing both trade and immigration, or that the causality runs both ways, cannot be ruled out in all cases.

The literature on immigrants and entrepreneurship is informative about the number of businesses formed by immigrants and the importance of ties between immigrant innovators and entrepreneurs and their home country, but it is only suggestive about whether immigrants causally stimulate trade or whether immigrants have a causal impact on U.S. growth through fast-growing or innovative startup companies. More research and more data with which to perform it are required to not only confirm the reported associations but also shed light on causation.

5.7 KEY MESSAGES AND CONCLUSIONS

Economies respond to immigration through several mechanisms: adjustment of factor prices, shifts in output mix, and changes in the use of production technology. The extensive literature on the economic impacts of immigration primarily focuses on the marginal product of labor and the resultant wage and employment outcomes in receiving countries' labor markets. The review in this chapter reflects this research emphasis. However, shifts in sectoral composition and adaptation of new technology are also discussed, both to fully understand immigration wage and employment dynamics and because they are interesting in their own right. The impact of immigration on capital accumulation and economic output, considered in Chapter 4, is relevant here in differentiating between short- and long-run changes in wages. The panel also considered the relationship between the immigration of high-skilled workers and innovation and how this relationship may generate changes in long-run economic growth; however, this topic is addressed more comprehensively in Chapter 6.

The empirical evidence reviewed in this chapter reveals one sobering reality: Wage and employment impacts created by flows of foreign-born workers into labor markets are complex and difficult to measure. The effects of immigration have to be isolated from many other influences occurring simultaneously that shape local and national economies and the relative wages of different groups of workers. Among the largest of these influences are changes in production technology, communications technology, and the global economy, which together promote international trade in goods and services (and hence offshoring), global supply chains, and foreign investment. Additionally, firm births and deaths occur, people retire, workers switch jobs, and a stream of young native-born job seekers come of age—all factors that affect the labor market. The inflow of the foreign-born at a given point in time is, under normal circumstances, a relatively

minor factor in the \$18 trillion U.S. economy.⁶⁰ That said, quantitatively significant labor supply shocks do occur, especially in localized markets, such as that which accompanied the 1980 Mariel boatlift in Miami (Borjas, 2016b; Card, 1990; Peri and Yasenov, 2015). Even then, the wage impacts may be difficult to detect.

The measurement task is further complicated because **the impact of immigration on labor markets varies across time and place, reflecting the size of the inflow, the skill sets of natives and incoming immigrants, the local industry mix, the spatial and temporal mobility of capital and other inputs, and the overall health of the economy.** Some of the processes that are set in motion take place immediately upon arrival of the foreign-born, while others unfold over many years. Aside from supplying labor, immigration (like population growth generally) adds to consumer demand and hence the derived demand for labor in the production of goods and services. This counterbalancing impact potentially plays a role in explaining why much of the empirical research finds small wage impacts associated with immigration. As noted above, the changes in wages and employment attributable to immigration can be difficult to identify because other factors tend to swamp the relatively small role that immigration typically plays in the overall labor market. In short, the uniqueness of immigrant inflows to time and place implies that it is difficult to use the lessons from one episode to predict the impact under different circumstances in the future.

Beyond these real world complexities, several additional measurement problems must be resolved. Primary among these (at least for some kinds of studies) is the endogeneity of immigrants' locational choices—most notably, the interaction between the vibrancy of local economies and people's location choices. Evidence suggests (Borjas, 2001; Somerville and Sumption, 2009) that immigrants locate in areas with relatively high labor demand and wages for the skills they possess and that immigrants are more willing than natives to relocate in response to changes in labor market conditions (Cadena and Kovak, 2016). If immigrants predominantly settle in areas that experience the highest wage growth, a spurious correlation arises: Wage growth (or dampened wage decline) will be erroneously attributed to the increase in labor supply. Additionally, correct identification of the wage and employment effects of immigration must account for the possible migration response of natives to the arrival of immigrants. Researchers have made great strides addressing these identification issues in recent decades; even

⁶⁰While the incremental *flow* of new immigrants appears to generate modest economic impacts, the *stock* of foreign-born individuals that has accumulated over time may be significant to *long-run economic growth* (see Chapter 6). Also notable is the fact that immigrants account for almost half the labor force growth in the United States since the mid-1990s (see Chapter 2).

so, the degree of success in dealing with them is still debated and methods are still being perfected.

Several analytic approaches have been developed to estimate wage and employment impacts associated with immigration, each with strengths and weaknesses. Spatial studies compare wage and employment trends in high versus low immigration areas, often defined by metropolitan areas, in order to identify the impact of immigration on wages and employment. A different set of studies examines the impact of immigration by exploiting variation in the density of the foreign-born across skill groups, typically defined by experience (age) and education groupings, instead of across geographic areas. Spatial studies must contend with the challenge of the endogeneity of destination locations, as described above. Meanwhile, skill cell studies, by focusing on the effect of immigrants on similar natives, may miss wage and employment effects induced by complementarities between immigrants and native-born workers at other parts of the skill distribution.

An influential variant of the skill cell literature is the third general approach reviewed in depth in this chapter. This structural approach imposes a modeling structure that relies heavily on assumptions about the relationship between output and the inputs to production (including different kinds of labor). The underlying structure assumes that average wages are unchanged by immigration in the long run—a period of time long enough such that all inputs to production, including capital, may be adjusted by firms. This assumption limits such analyses to estimating *relative* wage impacts across different groups, such as across high school dropouts, those with a high school degree, those with some college, and those with a college degree. The technical assumptions are therefore not innocuous; the most significant ones concern the degree to which capital is adjusted by firms in response to new worker inflows, the degree to which immigrants and natives within the same skill group are substitutable, and the degree to which high school graduates and high school dropouts are substitutable.

While many studies conclude that, economy wide, the impact of immigration on average wages and employment is small, a high degree of consensus exists that specific groups are more vulnerable than others to inflows of new immigrants. Theory predicts that the workers already in the receiving labor market who are the closest substitutes for immigrants are most likely to experience immigration-induced wage declines. Prior immigrants are typically the closest substitutes for new immigrants, followed by native high school dropouts, who are more affected due to the large share of low-skilled workers among immigrants to the United States. For this reason and due to concern about the economic well-being of native high school dropouts, much of the empirical literature concentrates on low-skilled labor markets.

Empirical research in recent decades suggests that findings remain by and large consistent with those in *The New Americans* (National Research Council, 1997) in that, when measured over a period of more than 10 years, the impact of immigration on the wages of natives overall is very small. However, estimates for subgroups span a comparatively wider range indicating some revisions in understanding of the wage impact of immigration since the 1990s. As noted above, for example, some studies have found sizable negative short-run wage impacts for high school dropouts, the native-born workers who in many cases are the group most likely to be in direct competition for jobs with immigrants. Even for this group, however, there are studies finding small to zero effects, likely indicating that outcomes are highly dependent on prevailing conditions in the specific labor market into which immigrants flow or the methods and assumptions researchers use to examine the impact of immigration. The literature continues to find less favorable effects for certain disadvantaged workers and for prior immigrants than for natives overall.

For the larger group of studies of natives overall or of low-skilled natives, the panel compared the magnitude of estimated wage impacts after harmonizing (to the extent possible) the effects associated with an immigrant influx equivalent to a 1 percent increase in labor supply. Some notable patterns emerge. Consistent with theory, **native dropouts tend to be more negatively affected by immigration than better-educated natives.** Some research also suggests that, **among those with low skill levels, the negative effect on native's wages may be larger for disadvantaged minorities** (Altonji and Card, 1991; Borjas et al., 2012) and Hispanic high school dropouts with poor English skills (Cortés, 2008). Since native dropouts experience a larger immigrant-driven labor supply increase than do natives overall, their greater susceptibility to a given immigrant inflow is compounded by higher inflows. Another regularity consistent with theory is that **there are larger negative effects on native wages from immigrant inflows in the short run** (i.e., in studies of the immediate impacts of abrupt immigrant inflows or in which inflows are observed over shorter periods of time, or in the case of the structural studies, when capital is assumed fixed). **Estimated negative effects tend to be smaller (or even positive) over longer periods of time (10 years or more) or in the case of structural studies, when capital is assumed to be perfectly flexible.**⁶¹

The results from our comparison of magnitudes also suggest that some of the differences in the estimated effects of immigration on natives are due to methodology, since they cannot be fully accounted for by whether the studies are looking at the long versus short term, at high school dropout

⁶¹In the case of structural studies, when capital is assumed to be perfectly flexible, wage effects on natives are zero, although this result is built in by theoretical assumptions.

natives versus all natives, or minority natives versus all natives. **The skill cell studies appear to find the most negative wage impacts and the structural the least negative, with the spatial studies in the middle.** As noted earlier, the approaches are not fully comparable. The numerical value of some of the elasticities from the structural approach is often built in by the technical assumptions. The skill cell studies avoid the endogeneity biases of the spatial studies, which makes the former more likely to find negative effects. However, they do not include cross-effects, for example the impact of an inflow of immigrants in one skill group on the wages of natives in another skill group, whose overall sign is unknown. If positive, cross-effects would not reverse the sign of the reported net effects but would lessen their magnitude.

Most studies find little effect of immigration on the employment of natives. However, recent research (Smith, 2012) does find that native teen employment, measured in hours worked, but not the employment rate, is reduced by immigration. Moreover, as with wage impacts, there is evidence that the employment rate of prior immigrants is reduced by new immigration—again suggesting a higher degree of substitutability between new and prior immigrants than between new immigrants and natives.

The impact of high-skilled immigration on native wages and employment has been the focus of less attention than the impact of low-skilled immigration. **The results of spatial studies are mixed, but some find a positive impact of high-skilled immigration on the wages and employment of both college-educated and less educated natives.** If confirmed, such findings would be consistent with high-skilled immigrants being complementary with natives, especially high-skilled natives; with human capital spillovers stemming perhaps from interactions among workers; or with high-skilled immigrants innovating sufficiently to raise the productivity of all workers. However, other studies that examine the earnings or productivity of narrowly defined groups of high-skilled workers (such as doctorates in narrow fields or professional mathematicians) found that high-skilled immigration had adverse effect on the wages or productivity of these high-skilled natives.

Finally, immigrants influence the rate of innovation in the economy, **which potentially affects long-run economic growth.** While research in this area is very recent, literature on the topic as a whole indicates that immigrants are more innovative than natives; more specifically, high-skilled immigrants raise patenting per capita, which is likely to boost productivity and per capita economic growth. Immigrants appear to innovate more than natives not because of greater inherent ability but due to their concentration in science and engineering fields. With so much focus on the labor market, this critical issue—the relationship between immigration and long-run economic growth—is sometimes overlooked by researchers and in the public debate. We turn to this and other topics in Chapter 6.

5.8 ANNEX: SUMMARY COMPARISON OF SELECTED WAGE AND EMPLOYMENT IMPACT STUDIES FOR THE UNITED STATES

As an aid for readers, Table 5-3 provides a summary comparison of the spatial (cross-area) studies and structural studies discussed in Sections 5.2 through 5.7. For each study, the author, the population sample analyzed, the methodology, and the key findings are listed.

TABLE 5-3 Recent Studies Using Cross-Area, Occupation, or Industry Approaches

Study	Sample, Analysis Unit	Methods	Findings
Altonji and Card (1991)	U.S. men and women, 1970-1980, MSA	Spatial correlation, first differences, IV	1 percentage (pctg.) point increase in immigrant share lowers native wages by 0.3% to -1.2%; employment and participation effects negligible.
LaLonde and Topel (1991)	U.S. men, 1970-1980, MSA	Spatial correlation, first differences	Negative wage effects for new immigrants, effects die out for earlier immigrant cohorts, no effects for natives.
Card (2001)	U.S. men, 1990 cross-section; natives and earlier immigrants by MSA \times broad skill/occupation/gender group	Spatial correlation, IV, analysis across cities and skill levels simultaneously to remove bias from omitted variables	Immigrants lower wages of less skilled natives—wages 0.99 pctg. points (male natives), 2.5 pctg. points (female earlier immigrants), 0 (other groups). 10% labor supply increase reduces employment rate 2.02 pctg. points (male natives), 0.81 pctg. points (female natives), 0.96 pctg. points (male earlier immigrants), 1.46 pctg. points (female earlier immigrants).
Cortés (2008)	U.S. men and women, 1980-2000, MSA	Spatial correlation, IV, country	Low-skilled immigrants don't affect native wages overall. Previous immigrant and Hispanic wages lowered (1-1.5%).
Peri et al. (2014)	U.S. city \times period (periods: 1990-2000, 2000-2005, 2005-2010)	Estimated H-1B-driven rise in STEM workforce, based on 1990 foreign STEM workforce by city and sending country and national-level distribution of H-1B visas by sending country	1 pctg. point increase in foreign share in STEM workers raises native STEM wages 7-8%.

continued

Borjas (2003)	Education level \times experience level \times U.S. census survey, 1960-2000	Number of foreign-born workers in each education-experience-year group	~10% migration-induced labor growth in 1980-2000 cut wages for native non-high school completers 8.9%.
Camarota (1998)	Cross-section (1991) for U.S.	Wages of all workers	Wages: -0.5% overall; wages for workers in low-skilled occupations -0.8%.
Card (2001)	Cross-section (1990), IV for U.S.	Relative wages and employment of low-skilled natives	No effect on relative wages, small negative impact on relative employment.
Card (1990)	Miami men and women, 1980-1985	Spatial correlation; measured impact of increase in low-skilled labor supply shock associated with Mariel boatlift	No effect on wages or unemployment of unskilled workers.
Dustmann et al. (2005)	UK men and women, 1983-2000 (pooled cross-sections)	Spatial correlation, IV methods; first-differences with IV (1983-2000); participation rate, (un)employment rate, and hourly wages of the working population by education	Immigration has statistically insignificant effect on wage of each skill group.
Dustmann et al. (2013)	UK men and women, 1997-2005	Spatial correlation by wage percentile, IV method	Immigration lowers wages at 5th and 10th percentiles, raises average and above median wages.
Clemens (2013)	58 employment offices \times 66 months, North Carolina, Feb. 2005-May 2011	Great Recession-caused unemployment jump, 2008-2009	Even after total unemployed in studied counties rose from 283,000 to 490,000, and with 6,500 job openings, only 7 native workers took and held farm jobs for the 2011 season—the rest were filled by migrants.

TABLE 5-3 Continued

Study	Sample, Analysis Unit	Methods	Findings
Smith (2012)	U.S. youth and adults	Spatial correlation, IV	10% increase in immigrants with high school degree or less reduced average number of hours worked by 3-3.5% for native teens; less than 1% for less educated adults.
Kerr and Lincoln (2010)	U.S. cities × year, 1995-2007	Estimated number of H-1B holders in a city, by ethnicity, based on national-level H-1B ethnic breakdown and number of H-1B applications in 2001-2002	Among top quintile of cities in H-1B dependence, 10% increase in national H-1B population associated in same year with 6-12% increase in patent filing by people with Indian or Chinese names and 0-2% rise overall.
Peri (2012)	U.S. states × U.S. Decennial Census, 1960-2006	Distance to Mexican border; estimates of migrant stocks based on 1960 stocks by state and sending country; national-level growth rates by sending country	Immigration increases productivity (output per units of labor and capital input).
Borjas and Doran (2012)	U.S. and Soviet mathematicians who published in 1970-1989	Arrival of ~336 Soviet émigré mathematicians in U.S. just after collapse of Soviet Union	American mathematicians in subfields with active émigrés were published and cited less after 1992 and more likely to leave profession, indicating zero-sum displacement by new immigrants.
Moser et al. (2014)	166 chemistry subfields × year, U.S., 1920-1970	Starting in 1933, arrival of 26 Jewish émigré chemists from Nazi Germany & Austria, distinguishing their pre-departure subfields from ones with active German/Austrian researchers who did not leave	American inventors in subfields with émigrés recorded an extra 170 patents/year in 1933-1970 in total, 70% over pre-1933 level.

Structural (Aggregate Production Function) Approach		
Grossman (1982)	1970 Decennial Census data (native, second generation, and foreign-born workers)	Uses cross-section data to estimate a trans-log production function to compute elasticities of substitution between immigrants and natives
Borjas et al. (1997)	U.S. 1980-1995, men and women	Applies estimated substitution elasticity of low-skilled for high-skilled workers to immigrant share
Borjas (2003)	U.S. men, 1980-2000	Nested production function, IV methods
Borjas (2014a)	Education level \times experience level \times U.S. census survey, 1960-2010	Nested production function, IV methods; number of foreign-born workers in each education-experience-year group
Orrenius and Zavodny (2007)	Panel model with IV (1994-2000) (for U.S.)	Wages of natives by occupation groups
Ottaviano and Peri (2012)	Education level \times experience level \times native/immigrant \times U.S. census survey, 1990-2006	Nested production function, IV methods; total person-weeks of work in each education-experience-nativity-year group
Borjas (1987)	1980 Decennial Census data (white, black, Hispanic, and Asian natives and immigrants)	Generalized Leontief

Second generation and foreign-born workers are substitutes for 3rd generation and higher native-born.

Wage elasticity is -0.322 ; immigrants lowered wages of high school dropouts relative to high school grads by 4.8% .

Immigrants lower wages of dropouts by 8.9% and college graduates by 4.9% .

10.6% migration-induced labor growth in 1990-2010 cut wages for native non-high school completers 6.2% (no capital adjustment) or 3.1% (after full capital adjustment).

Wages of low-skilled natives negatively impacted by immigration (-0.26%); no effect for more-skilled labor.

Small effects on wages of dropouts. Disaggregated, a 10% migration-induced labor growth 1990-2006 *raised* wages for native non-high school completers 1.7% , cut them for foreign-born 8.1% (both after full capital adjustment).

Immigrants have small effects on native-born but sizable impact on earnings of immigrants themselves.

5.9 TECHNICAL NOTES FOR THE CROSS-STUDY COMPARISON OF THE MAGNITUDES OF IMMIGRANTS' IMPACT ON WAGES

This appendix explains the calculations behind the magnitudes of immigrants' impact on wages reported in Table 5-2. Some papers report the impact of increasing the share of immigrants in the population or labor force by one percentage point, some of increasing the ratio of immigrants to natives by one percentage point, some of increasing immigrants by an amount that would increase the labor force (including natives) by 1 percent, and some the impact of particular episodes of immigration. The goal is to report what each paper implies about the percent change in wages in response to immigration that increases the labor force by 1 percent, $\frac{\partial \log w_j}{\partial \log L_j}$, where w is the wage and L the labor force, and j indexes the unit of observation, which may be the labor force of a state, an occupation, or a skill cell or education group.

All papers use the log wage, $\log w_j$, as the dependent variable. In several papers, the independent variable is $\log k_j$, where $k_j \equiv \frac{L_j}{L} = \frac{M_j + N_j}{M + N}$, the share of employment or the labor force or population that is of education or occupation type j , a share which may be rewritten as a reminder that L is composed of immigrants N and natives M . The dependent variable is instrumented with predicted immigration, making the coefficient on k_j , θ , the effect of a change in the share that is due to immigration: $\frac{\partial \log w_j}{\partial \log L_j} = \theta$. For such cases, θ is reported bolded in the table.

In other papers, the dependent variable is $p_j \equiv \frac{M_j}{M_j + N_j}$, the share of immigrants in the labor force, occupation, education group, or skill cell j . In this case, $\frac{\partial \log w_j}{\partial \log L_j} = \theta(1 - p_j)$, where θ is the coefficient on m_j .

- Proof:
$$\begin{aligned} \frac{\partial \log w_j}{\partial \log L_j} &= \frac{\partial \log w_j}{\partial \log p_j} \frac{\partial \log p_j}{\partial \log L_j} = \theta p_j \frac{L_j}{p_j} \frac{\partial p_j}{\partial L_j} \\ &= \theta p_j \frac{L_j}{p_j} \frac{\partial p_j}{\partial M_j} = \theta L_j \left(\frac{1}{L_j} - \frac{M_j}{L_j^2} \right) = \theta(1 - p_j) \end{aligned}$$

In yet other papers, the dependent variable is $m_j \equiv \frac{M_j}{N_j}$, the ratio of immigrants to natives in the labor force or education group j . In this case, $\frac{\partial \log w_j}{\partial \log L_j} = \theta \frac{1}{(1-p_j)}$, where θ is the coefficient on m_j .

- Proof:
$$\begin{aligned} \frac{\partial \log w_j}{\partial \log L_j} &= \frac{\partial \log w_j}{\partial \log m_j} \frac{\partial \log m_j}{\partial \log L_j} = \theta m_j \frac{L_j}{m_j} \frac{\partial m_j}{\partial L_j} \\ &= \theta m_j \frac{L_j}{m_j} \frac{\partial m_j}{\partial M_j} = \theta \frac{L_j}{N_j} = \theta \frac{M_j + N_j}{N_j} = \theta \frac{1}{(1-p_j)} \end{aligned}$$

To make comparable the magnitudes in papers whose dependent variable is p_j or m_j , one must choose a value of p_j . The ideal for any given paper would be the average p_j in the paper's sample. However, the panel evaluated at a common p_j value to ensure that the magnitudes of effects across papers do not differ simply because the average immigrant density differs across papers. For papers seeking to estimate the impact of all immigrants, we set $p = 0.126$, which is the immigrant share of the labor force in 2000. So $1 - p = 0.874$; magnitudes calculated in this way are underlined in Table 5-1. Below, we explain how we treated results from each paper that can be rendered comparable in this way, and how we treated results from papers assessing particular episodes, including the structural results. While the implicit value of p_j for the structural papers is close to 0.126, the results from other particular episodes may implicitly or explicitly be evaluated at a different p_j .

Altonji and Card (1991)

- Independent variable is p .
- $\theta = -1.2$ for all native-born high school dropouts. The most negative coefficient is $\theta = -1.9$ for black native-born male high school dropouts (Altonji and Card, 1991, Table 7.7; Table 7.8, row 6, final column).
- If the number of immigrants rises sufficiently to raise labor supply by 1 percent, native-born high school dropout wages fall $(0.874)(-1.2) = -1.0\%$; native-born black male high school dropout wages fall $(0.874)(-1.9) = -1.7\%$.

Borjas (2003) Nonstructural Estimation

- Independent variable is p .
- $\theta = -0.637$ for native men (own-wage coefficient; Table III, row 3 column 2, in Borjas, 2003). The impact on women was not studied.
- An increase in the number of immigrants sufficient to increase the labor force by 1 percent reduces wages by $(0.874)(-0.637) = -0.56\%$.

Borjas (2015), Peri and Yasenov (2015)

- Borjas (2016b) reports on p. 27 that wages of (non-Hispanic) dropouts fell 10-30 percent as a result of the Mariel boatlift.
- His Table 2, p. 49, indicates that the boatlift increased the share of Marielitos among high school dropouts from 0 percent (by definition) to 17.5 percent (column 3). The denominator (column 1) appears to be all high school dropout workers including Hispanic non-Marielitos.
- Columns 1 and 2 of Table 2 (and the text on p. 27) indicate that the boatlift increased the labor supply of high school dropouts by 21 percent, assuming column 1 is indeed all dropout workers.
- Since a 21 percent increase in high school dropout labor supply due to immigration reduced wages 10 to 30 percent, a one percent increase reduces wages by -0.48 percent to -1.43 percent.
- Peri and Yasenov (2015) report in their Table 4 that wages rose 4.5 percent immediately after the Mariel boatlift.
- They report on page 7 that the Marielitos increased the number of high school dropouts by 15-18 percent.
- This means that a 1 percent increase in labor supply increased wages by 0.25-0.30 percent.

Card (2001)

- Independent variable is $\log k_i$ ($\log f_i$ in Card's notation).
- $\theta = -0.099$ for native men, $+0.063$ for native women (Card, 2001, Table 10, lower panel).
- If the number of immigrants rises sufficiently to increase labor supply by 1 percent, native wages fall by θ (this is the local average treatment effect [LATE] interpretation of instrumenting the log share of a group in the labor force with immigration to the group).

Card and Peri (2016)

- Independent variable is p (own-wage coefficient) Δp or $\frac{\Delta M}{M_{t-1} + N_{t-1}}$.
- $\theta = -0.237$ (for Δp ; Table 2, 2nd row last column); $\theta = -0.124$ (for $\frac{\Delta M}{M_{t-1} + N_{t-1}}$; Table 2, 3rd row last column).
- If the number of immigrants rises sufficiently to increase labor supply by 1 percent, native wages fall $(0.874)(-0.237) = -0.21\%$ (for Δp ; for $\frac{\Delta M}{M_{t-1} + N_{t-1}}$, the magnitude may be read directly from the coefficient θ , so -0.12%).

Cortés (2008)

- Independent variable is $\log k_j$.
- $\theta = -0.05$ and is insignificant for all native dropouts (Cortés, 2008, Table 8). There are a variety of θ for other native groups (Table 10).
- If the number of immigrants rises sufficiently to increase labor supply by 1 percent, native high school dropout wages fall by θ (this is the LATE interpretation of instrumenting the log share of a group in the labor force with immigration to the group).

Llull (2015)

- Independent variable is (own-wage coefficient).
- $\theta = -2.0$ (own-wage coefficient; Llull, 2015, Table 7 bottom row).
- If the number of immigrants rises sufficiently to increase labor supply by 1 percent, native wages fall $(0.874)(-2.0) = -1.75\%$

Monras (2015)

- Independent variable is m_j .
- The calculations below ignore the fact that the regressions in Monras (2015) also control for $\log L_j$ (theory suggests controlling for $\log N_j$, a variable with a coefficient of 0.05).
- Controls for GDP and the size of the labor force mean that implicitly capital is held fixed. However, because the study looks at the short-run effect of an unexpected inflow, these controls may matter little.
- $\theta = -0.75$ (Table 4 column 7, author's preferred coefficient).
- $\bar{p} = 0.055$

- If the number of immigrants rises sufficiently to increase labor supply by 1 percent, native wages fall by $(-0.75)/(1 - .055) = -0.79\%$. Alternatively, one can rely on theory and an approximation based on small p to read the effect directly from the coefficient, to obtain -0.75 percent (for this to be correct, $\log N_j$ must be controlled for in the regression).

Structural Wage Effects in Table 5-2

- The wage-effect values shown in the second column of the “Structural Studies” section of Table 5-2 simulate the effect of immigration from 1990 to 2010, when the share of immigrants in the labor force rose from 9.3 percent to 16.4 percent—a 7.1 percentage point rise.
- We focus on the most negative and the least negative (or most positive) scenarios in Table 5-1, ignoring the result that the long-run effect on all workers (Scenarios 1 and 3) is zero, since this is an assumption embedded in the model.
 - For all natives in the short run, wage impacts in Table 5-1 range from -3.2 percent (Scenario 1) to -2.6 percent (Scenario 2).
 - For all natives in the long run, wage impacts in Table 5-1 are 0.5 percent (Scenario 4) or 0.6 percent (Scenario 2).
 - For native dropouts in the short run, wage impacts in Table 5-1 range from -6.3 percent (Scenario 1) to -2.1 percent (Scenario 4).
 - For native dropouts in the long run, wage impacts in Table 5-1 range is from -3.1 percent (Scenario 1) to 1.1 percent (Scenario 4).
- So a 1 percentage point increase in the immigrant share would imply reductions in wages of these amounts divided by 7.1 (the observed percentage point rise in the immigrant share between 1990 and 2010), or:
 - -0.37 to -0.45 percent for all natives in the short run
 - $+0.07$ to $+0.08$ percent for all natives in the long run
 - -0.89 to -0.30 percent for native dropouts in the short run
 - -0.44 to $+0.15$ percent for native dropouts in the long run
- If the number of immigrants rises sufficiently to increase labor supply by 1 percent, native wages would fall by 0.874 times the values in the previous bullet. In Table 5-2, values for the wage effect are rounded to one decimal place, which results in several scenarios being reported as having the same effect.

6

Wider Production, Consumption, and Economic Growth Impacts

6.1 INTRODUCTION

As consumers, workers, innovators, and entrepreneurs, immigrants help shape nearly every aspect of the economy and of society more broadly. Labor market consequences are perhaps the most visible and most debated economic concern, due to their direct impact on employment and wages. But product, housing, and capital markets are affected by immigration as well, as are some nonmarket activities and—as a result of human capital formation and innovation induced by high-skilled immigration in particular—the trajectory of long-run economic growth. This chapter discusses these economic impacts of immigration that take place beyond the labor market while recognizing that many outcomes associated with them are influenced by their interaction with changes in labor supply and demand over time.¹

The chapter begins (Section 6.1) with a description of aggregate-level impacts: year-to-year changes in gross domestic product (GDP) or in GDP per capita, driven by expansion of the labor force and physical capital, as well as production-technology adjustments, responding to immigrant flows. Borjas (2013), in considering the impact of immigration on overall economic activity, estimated that the presence of immigrant workers—the *stock* of authorized and unauthorized foreign-born workers—in the labor market makes the U.S. economy an estimated 11 percent larger each year

¹Nathan (2014), surveying what is only a fairly recent literature, organized these “wider economic impacts of immigration” (beyond labor markets) into a dynamic framework encompassing the production and consumption sides of the economy; the focus of his literature review is on the role of high-skilled immigrants.

(which amounts to around \$2 trillion in GDP in 2016). As a percentage of the overall economy, annual GDP growth directly attributable to the labor of recent immigrant *inflows* is much smaller, and it mostly accrues to immigrants themselves.

However, when factors beyond those directly attributable to labor force expansion are considered—for example, the contribution of immigrants to capital formation, entrepreneurship, and innovation, which also shape the way and the pace at which growth unfolds—expansion of the aggregate economy attributable to new arrivals becomes much larger. Recent immigrants have higher patenting rates than natives due to their concentration in science and engineering and to their disproportionate representation among highly educated workers. One would expect this increased innovation to exert a positive externality on the productivity of natives, very likely raising per capita GDP growth. Peri (2012) performed a state-level analysis of the impact of immigration on total factor productivity. Using historic settlement patterns (similar to Hunt and Gauthier-Loiselle, 2010) and distance to the Mexican border as instruments to control for endogeneity of immigrants’ locational choices, he found immigration increased total factor productivity by promoting efficient task specialization. Similarly, Peri et al. (2015a) found that cities experiencing a greater immigration of science and engineering workers (broadly defined as the share of a city’s total employment comprised of foreign science, technology, engineering, and mathematics [STEM] workers) increased the productivity of college labor.

Evidence also exists (see Borjas, 2001; Cadena and Kovac, 2016; Somerville and Sumption, 2009) that immigrants locate in high labor demand/high wage areas for the skills they possess and are more willing than natives to relocate in response to changes in labor market conditions. This tendency may reduce friction and slack in labor markets by reallocating labor in a way that helps equalize compensation across geographic areas (see discussions in Chapter 5 of problems for spatial approaches to measuring wage effects of immigration).

Sections 6.2 and 6.3 discuss the consequences of immigration in specific sectors of the economy where the foreign-born population share is high and consider the influence of immigration on consumer prices and cost of living. Increases in the share of low-skilled immigrants in the labor force appear to have reduced, over time, the prices of immigrant-intensive services such as child care, eating out, house cleaning and repair, landscaping and gardening, taxi rides, and construction. Most of these services are “nontradable,” which means they must be produced and consumed in the same geographic area. The decrease in prices is found to be driven by lower wages paid by those hiring in labor markets populated by low-skilled workers of Hispanic origin, particularly those with relatively low English proficiency and/or who are not legally authorized to work (Baghdadi and Jansen, 2010; Cortés,

2008). Through lower prices, low-skilled immigration creates positive net benefits to users of these services. Furthermore, the availability of low-cost, flexible housekeeping and child care services provided by the foreign-born appears to have allowed women in high-salary jobs to increase their work hours (Cortés and Tessada, 2011).

Housing is a specific sector in which immigrants play an important role. On the supply side, immigrants are disproportionately represented in construction industries (see Chapter 3). Their addition to the labor force may reduce the cost of construction and maintenance services. However, new arrivals also provide a major source of housing demand and, by raising both prices and rents, generate a potential windfall for native owners of housing. Studies of U.S. metropolitan areas have detected this demand-driven impact on the price of housing services. Saiz (2007) estimated that an inflow of legal immigrants equal to 1 percent of the total population would be expected to lead to an increase of about 1 percent for both rents and housing values. Ottaviano and Peri (2012) arrived at similar results.

Section 6.4 shifts the focus from primarily short-term economic impacts created by new immigrant flows to impacts on long-term growth. The emphasis is on technological innovation and human capital formation—viewed here as interacting, or endogenous, components of the evolving economy rather than as factors determined outside the process, or exogenously—as engines of growth that takes place over decades, not years.² The potential effects of immigration are assessed using growth models in which future productivity and income growth are determined by investments in human capital and technological innovation.

The difference between the measured economic outcomes generated by endogenous growth models, as opposed to models in which growth is exogenous to the economy, may be significant. The recent endogenous-growth literature suggests that estimates of productivity and wage impacts of immigration can be either larger or smaller than those derived when static conditions are assumed, depending largely on the extent to which new immigrants contribute to human capital formation and innovation. In particular, this literature finds that the positive effects associated with high-skilled immigration and the negative effects associated with low-skilled immigration are amplified when viewed in a long-run endogenous growth context. These results are compatible with evidence about the educational achievement of descendants of immigrants (Chapters 2, 3, and 8). The endogenous growth models also predict that complementarities between immigrants and natives in knowledge production lead to increases in the

²In econometric models, exogenous variables are not systematically affected by changes in the other variables of the model, whereas endogenous variables are at least in part determined by other variables or latent factors that affect them both.

rate of per capita income growth, not just increases in the level of national income (economic activity).

Some endogenous growth models are also consistent with empirical evidence suggesting that the proportion of high-skilled workers immigrating to the United States (as well as to other major receiving countries), relative to total immigration flows, has been increasing in recent decades to the point where, in some sectors, their skill levels already match or surpass those of natives (Ehrlich and Kim, 2015). In terms of their contribution to innovation and average human capital formation, the impacts of immigration that play out in the long run also operate over transitional phases and can appear within one generation. Consider, for example, the educational attainment of the children of relatively high-skilled immigrants, which on average outpaces that of their parents and of the native-born population. Estimated medium-run effects on average wages in the population (such as after 10 years) observed in the literature (see Chapter 5) are by and large consistent with many of the predictions from endogenous growth models.

Economic activities that take place beyond the market, such as in-home production, or in markets that operate on the fringes of taxing authorities, are discussed at the end of the chapter, in Section 6.5. If immigrants devote more time to nonmarket work such as caregiving and housework than do natives—and data from time-use surveys suggest that this may indeed be the case (Ribar, 2012)—or are more likely to be employed in sectors where informal work arrangements are common, reliance on conventional sources of wage and employment data and on GDP measures will result in incomplete assessments of the impact of immigration on the economy.

6.2 IMPACT ON OVERALL ECONOMIC ACTIVITY (GDP)

The size of a market economy is a function of the total number of workers, the stock of physical capital, and the average factor output, or productivity. Immigration directly adds to the size of the economy by increasing the population and workforce; it also affects the composition of the population in a number of ways, including age, gender, and education. The presence of immigrant workers (authorized and unauthorized) in the labor market has made the U.S. economy much larger—perhaps 11 percent larger, an increase equivalent to \$1.6 trillion of GDP in 2012 (Borjas, 2013). Extrapolating, in 2016 this contribution to GDP is about \$2 trillion. This makes sense intuitively, as the *stock* of foreign-born workers in the labor market, which has accumulated over many decades, is large. According to Bureau of Labor Statistics (BLS) data on labor force characteristics, there were 25.7 million foreign-born persons ages 16 and older

participating in the labor force in 2014, representing 16.5 percent of the total U.S. workforce.³

Quite distinctly from these contributions by the stock of immigrants, it is also of interest to know how much the annual *flow* of new immigrants contributes to economic growth. Under normal circumstances, the annual flow of foreign-born workers into most countries is small relative to the overall population. It is therefore unsurprising that studies focusing on short-run wage and employment impacts (such as those reviewed in Chapter 5) would imply increases in GDP attributable to recent immigration that are quite small when measured as a share of the total economy. In addition, the benefit accruing to U.S. natives (the immigration surplus discussed at length in Chapter 4) is typically estimated to be a small piece of this already small overall impact. Borjas (1995b) found that the foreign-born added about 0.1 percent to the portion of GDP accruing to the native-born. Borjas et al. (1997) and Johnson (1997) found somewhat higher and lower impacts respectively, but the differences do not change the conclusion that the contribution is practically undetectable in aggregate (GDP) data. Based on this and related literature, *The New Americans* (National Research Council, 1997, p. 153) concluded (in the context of the 1980s and 1990s): “Overall, barring sizable immigration-induced economies or diseconomies of scale, the most plausible magnitudes of the impact of immigration on the economy are modest for those [natives] who benefit from immigration, for those who lose from immigration, and for total GDP. The domestic gain . . . may be modest relative to the size of the U.S. economy, but it remains a significant positive gain in absolute terms.”

While aggregate annual impacts are small, immigration can nevertheless make a significant contribution to economic *growth*, especially since immigrants are disproportionately of working age and significantly boost employment growth. Consider how different the U.S. growth path would be had all immigration been cut off 10, 20, or 30 years ago: Clearly GDP would be much smaller, and perhaps per capita GDP would be as well—in no small part because the United States would have an older population with a considerably lower percentage of individuals active in the workforce (Myers et al., 2013).⁴ Over the long run, foreign-born inflows have a

³See <http://blogs.bls.gov/blog/tag/foreign-born> [November 2016]. The concentration of immigrants varies greatly by geographic location and economic sector. In some cases, immigrants may even supply all of a business's labor and create all of its demand. A restaurant in an enclave that hires only foreign-born workers and where all its customers are from the same community may have little to no effect on native wages and employment, while obviously contributing to a larger national economy.

⁴A recent working paper by Maestas et al. (2016) examines the effect of an aging population on per capita output at the state level in the United States. They found that per capita GDP growth during the period 1980-2010 was 9.2 percent lower than it would have been had the

compounding effect that potentially influences economic and fiscal trends in profound ways. As a result, the Congressional Budget Office and other organizations are interested both in estimating how immigration flows impact GDP and in the fiscal picture for various scenarios of the volume and composition of immigration (e.g., legal status, skill mix).⁵

Conclusions such as the one cited above from *The New Americans*—reflecting estimates derived from a static framework that typically only accounts for the direct labor share of income and the immigrant and native-born shares of the labor force—are being reconsidered in light of evidence that immigrants may increase the productivity of some natives. When factors beyond those directly attributable to labor force expansion are considered—specifically, those effects created indirectly through higher savings, investment, and capital flows—expansion of the aggregate economy attributable to new arrivals becomes larger. Ben-Gad (2008) analyzed the impact on the United States of absorbing an additional 60,000 immigrants per year over the course of a decade. If all these additional immigrants have college degrees, per capita GDP would rise by 0.15 percent at the end of the first decade. Ultimately, as the capital stock continues to adjust, per capita GDP would increase by a further 0.105 percent in the decades that follow. If none of the additional immigrants have college degrees, the additional inflow ultimately lowers per capita GDP by 0.09 percent, though natives still benefit from an immigration surplus.⁶

Yet all these studies, whether static (Borjas, 1995b; Borjas et al., 1997; Johnson, 1997) or dynamic (Ben-Gad, 2008), fall within the neoclassical economics tradition. Different types of labor combine with physical capital to produce output using a predetermined technology. This framework does not exclude analysis of long-run growth as the technology evolves over time; however, there is no sustained immigration-induced technological change. For example, what happens if immigrants themselves change the technology? As detailed in Section 5.6, patenting activity by foreign-born

population not aged, with two-thirds of this reduction attributable to slower growth in the labor productivity of workers and about one-third attributable to slower labor force growth. Given current population projections, their results imply that “annual GDP growth will slow by 1.2 percentage points this decade and 0.6 percentage points next decade due to population aging” (Maestas et al., 2016). This aging effect would be even more pronounced without the influence of the immigrant population, which is relatively younger than the native-born population.

⁵See <https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/reports/49868-Immigration4.pdf> [November 2016].

⁶Studying the Canadian case, Dungan et al. (2013) used a macroeconometric forecasting model to simulate “the impact on the Canadian economy of a hypothetical increase in immigration.” They found generally positive impacts on real GDP and GDP per capita, aggregate demand, investment, productivity, government expenditures, taxes, and especially net government balances, with essentially no impact on unemployment.

college graduates is estimated to have increased U.S. GDP by 1.4-2.4 percent over the decade of the 1990s (Hunt and Gauthier-Loiselle, 2010). Although the overall macroeconomic impact of immigration that takes place in a given year is modest compared to other factors, the compounding role of foreign-born innovators and other kinds of workers becomes significant to long-run economic growth.

Finally, beyond the impact of immigration on total or per capita GDP, there may be effects on the distribution of income. The flow of immigration typically alters the skill and occupational composition of a country's workforce. If immigrants disproportionately increase the size of the lowest earnings quintiles, their addition to the population will raise overall inequality by any measure (such as a Gini index). The same logic holds for measures of poverty rates. Moreover, if immigrants are concentrated in the lowest *and* in the highest education groups, as is the case in the United States, this change in the composition of the population increases measured wage inequality, although such an accounting does not take into account any (positive or negative) effects of immigration on native-born workers. Analyses of the U.S. economy (e.g., Blau and Kahn, 2015 and Card, 2009) have found this direct compositional effect to be very small. That said, Card (2009) did find the effects of recent immigrant inflows on overall wage inequality in the population (including natives and immigrants) to be somewhat larger than the impact on the relative wages of U.S. natives, "reflecting the concentration of immigrants in the tails of the skill distribution and higher residual inequality among immigrants than natives" (Card, 2009, p. 1). Overall, however, Card found that immigration still accounted for only a small share (5%) of the increase in wage inequality in the United States from 1980 to 2000.

Wage inequality could also be affected when immigration impacts the wages of natives (as described in detail in Chapters 4 and 5). If, for example, immigration increases the relative supply of low-pay, low-skilled workers and there is only a partial offsetting increase in demand for goods and services they produce, the pay of low-wage workers will fall relative to that of high-wage workers—leading to an increase in measured inequality. If low-skilled immigrants competing with natives are, at the same time, complements to business owners and high-skilled workers at the high end of the income distribution, the wages of the latter two groups may rise. Such wage changes would exacerbate inequality, which is already growing due to the increasing demand for high-skilled labor that has taken place since the 1970s. In addition, international trade during this period may have put downward pressure on demand for and wages of workers in medium- and low-skilled sectors.

6.3 SECTORAL AND GEOGRAPHIC IMPACTS

Although immigration flows over any given year or quarter have a minimal impact on overall levels of economic activity as measured by GDP or GDP growth, certain sectors or regions may be disproportionately affected. As documented in detail in Chapter 3, foreign-born workers are more likely than native-born workers to be employed in low-wage service sector occupations and less likely to be employed in management, professional, and sales occupations. They are also more likely to be employed in goods-producing sectors such as construction, agriculture, and manufacturing. This occupational and industrial sorting primarily reflects the disproportionate presence of foreign-born workers at the low-education end of the skill spectrum; it also represents different skill sets (e.g., English-language proficiency) that are at least partly independent of years of schooling.

Although the foreign-born have historically been concentrated in construction, farm, and service-sector jobs, they are playing an increasing role in high-skilled occupations, many of them in STEM fields.⁷ Research into this trend has found evidence of clear links between high-skilled immigration, entrepreneurship, and innovation in high tech sectors (Kerr, 2013b; Kerr and Kerr, 2011). This line of research, summarized in Chapter 5, supplements work on more traditional ethnic entrepreneurship focusing on small business formation in nontradable sectors such as lower-end retailing and restaurants (Kloosterman and Rath, 2001). As covered elsewhere in this report (Chapter 3 and Section 6.5 below), the higher-education sector in the United States is generating graduates who help meet the demand for high-skilled workers. In 2013, the number of foreign students attending U.S. universities was around 820,000 (F-1 visas); the number of students from China alone was about 200,000 (up from 16,000 in 2003). A large percentage of these foreign-born students, particularly at the graduate level, are enrolled in STEM fields.

Just as the occupational sorting of immigrants has resulted in the concentration of foreign-born workers in certain sectors, both low- and high-skilled, migration flows have also been spatially clumped. Many entry-level service sector jobs are located in urban areas with prior immigration, which draws low-skilled immigrants. Highly educated foreign scientists and

⁷Lofstrom and Hayes (2011) analyzed earnings differences between H-1B visa holders and U.S.-born workers in STEM occupations and found little evidence that the visa holders were paid less than natives of similar age and education. Hunt (2015) examined immigrant and native skills and wages in U.S. computer and engineering labor markets and found that immigrants earned higher wages on average due to higher average levels of education. The wage advantage was larger for computer workers than for engineering workers, possibly due to greater returns on English proficiency for the latter. Occupation-based samples of the American Community Survey reveal larger wage differentials between the two groups than do education-based samples.

engineers also tend to locate in cities where clustering of human capital and more efficient migrant-native task specialization are facilitated (Peri et al., 2015a). Hall et al. (2011, p. 1) reported that in 44 of the nation's 100 largest metropolitan areas—including large coastal cities such as San Francisco and Washington, DC—college-educated immigrants outnumber immigrants without high school diplomas by at least 25 percent. The low-skilled destinations, which have the reverse distribution, tend to be in the Great Plains and in the border states of the West and Southwest.

Beyond cities, there are examples of immigrants reversing the fortunes of declining regions or helping to fuel growth in small towns. Immigrants typically flow to these towns in response to employment opportunities, such as meat packing or poultry processing. Carr et al. (2012) documented the rise of Hispanic boomtowns and examined rural populations where decline had been slowed and even reversed from an infusion of new immigrants.⁸ Hong and McLaren (2015) explored this potential “shot in the arm for local economies,” focusing mainly on the labor market impact of consumer demand for local services. They found that the bump in consumption can “attenuate downward pressure from immigrants on non-immigrants’ wages, and also benefit non-immigrants by increasing the variety of local services available.”⁹ Using Decennial Census data from 1980 to 2000, the authors found evidence that, due to these effects, immigrants did in some cases raise native workers’ real wages. They also found an employment effect: specifically, that each immigrant created 1.2 local jobs for local workers, most of them going to native-born workers. Sixty-two percent of these jobs are in nontraded services; that is, where the good or service must be produced and consumed in the same local area.

Explaining why net migration patterns are most likely to affect markets for nontradable goods, Mazzolari and Neumark (2012) noted that, for some kinds of goods and services, trade is impractical due to high cost of transportation, short shelf life (e.g., restaurant meals), fixed location of output (e.g., landscaping), or even for legal or security reasons (e.g.,

⁸Carr et al. (2012) cite a number of factors that incentivized new arrivals to reside in specific locations where allowed by enforcement and where jobs could be found which, in the process, contributed to the creation of immigrant “boomtowns.” Among these factors were the Immigration Reform and Control Act of 1986; anti-immigrant legislation (e.g., California’s Proposition 187); militarization of the border; transformation of the meat packing industry; and concentration of oil, timber, furniture, carpeting, textiles, and other nondurable manufacturing. See an issue brief from the Immigration and the States project of the Pew Charitable Trusts for data showing the impact of immigrants slowing population decline in some counties (<http://www.pewtrusts.org/en/research-and-analysis/issue-briefs/2014/12/changing-patterns-in-us-immigration-and-population> [November 2016]).

⁹Mazzolari and Neumark (2012) found evidence that immigration in California is associated with fewer stand-alone retail stores but a greater variety of ethnic restaurants.

national defense). These constraints create niches for low-skilled workers in occupations serving these markets.

There is evidence that immigrants are more responsive than natives to regional differences in labor demand, a factor that makes labor markets more efficient because workers flow to where wages are rising (Borjas, 2001; Somerville and Sumption, 2009). Controlling for endogeneity of destination decisions, Cadena and Kovac (2016) culled evidence from the Great Recession to conclude that “Mexican-born immigrants’ location choices in the U.S. respond strongly to changes in local labor demand, and that this geographic elasticity helps equalize spatial differences in labor market outcomes for low-skilled native workers, who are much less responsive” (Cadena and Kovac, 2016, p. 257).

Borjas (2001) examined the role of immigrants in improving labor market efficiency and found that immigration “greases the wheels of the labor market by injecting into the economy a group of persons who are very responsive to regional differences in economic opportunities” (Borjas, 2001, p. 4). The paper explored empirically and theoretically how labor market efficiencies gained from immigrants clustering in higher-wage regions raises GDP, relative to what would have been observed if immigrants had simply replicated the geographic sorting of the native population. Analyzing Decennial Census data for the period 1950-1990, Borjas found evidence that geographic sorting of immigrants reflected interstate wage differences. New immigrants were found to be more likely to locate in states that offer the highest wages for the category of skills that they possess. In other words, new immigrants “make up a disproportionately large fraction of the ‘marginal’ workers who chase better economic opportunities and help equalize opportunities across areas” (Borjas, 2001, p. 2). If the foreign-born respond to increasing wage differentials by moving toward relatively higher paying regions, they may help fill labor demand in expanding industries (such as health care¹⁰) driven by an aging population or other factors. Borjas also found evidence of greater wage convergence across geographic regions during high-immigration periods. However, at the low-skilled end of the labor spectrum, Orrenius and Zavodny (2008) found evidence that, during the 1994-2005 period, some immigrants “may have been discouraged from settling in states that set wage floors substantially above the federal minimum.” This indicates that, in some cases, immigrants locational choices are more closely linked with job opportunities (employment growth) than with wages. Cadena (2014) corroborated this hypothesis. He found that, over the 1994-2007 period, recently arrived low-skilled immigrants selectively located in states that had not increased their minimum wage levels, suggest-

¹⁰OECD and World Health Organization (2010) estimated the large numbers of nurses being recruited by developed economies to help meet health care demands.

ing a sensitivity among workers to the potential for subsequent “disemployment effects” that could be induced. One conclusion reached by the author is that these locational choice patterns may diffuse any negative wage impacts affecting established workers in immediately affected local labor markets throughout the country.

One barrier to this kind of efficient allocation of new workers, foreign-born or otherwise, relates to cost of living (i.e., real wages). Hsieh and Moretti (2015) found that homeowners in high-wage cities have an incentive to restrict housing supply through regulatory means. Studying the contributions of individual U.S. cities to national GDP growth, they showed that worker productivity was increasingly variable across cities, reflecting “an increasingly inefficient spatial allocation of labor across U.S. cities” (Hsieh and Moretti, 2015, p. 1). Part of this variability was tied to housing prices (and policies). They found that the main effect of fast productivity growth in cities like New York, San Francisco, and San Jose—cities with booming high-tech and finance industries—was an increase in local housing prices and local wages, not in employment. In the presence of strong labor demand, tight housing supply effectively limited employment growth in these cities. In contrast, “the housing supply was relatively elastic in Southern cities. Therefore, total factor productivity growth in these cities had a modest effect on housing prices and wages and a large effect on local employment” (p. 34). This constraint means that not all workers, including immigrants, have the option of locating in the most productive cities.¹¹ It may also partly explain the shift since the 1990s in immigrant location patterns from traditional gateways such as California, Florida, Illinois, New Jersey, and New York to states in the Southeast, Rocky Mountain West, and Pacific Northwest (Pew Charitable Trusts, 2014a).

6.4 IMPACT ON PRICES OF CONSUMER GOODS AND COST OF LIVING

Consumer Prices

In previous chapters, the size and direction of wage impacts driven by immigration was shown to be highly context-dependent, varying by size and duration of inflow, the skill mix of workers, and sector. For similar reasons, immigration has an ambiguous theoretical effect on the relative prices of different goods and services. The same economic change—an increase in the supply of workers—that can lower wages and production costs can also lower prices, particularly in labor-intensive sectors (Baghdadi and Jansen,

¹¹It may also reflect the possibility that high-skilled labor markets are more “national” in scope while low-skilled labor markets are more local.

BOX 6-1 **Remittances**

After arriving in their destination country, immigrants add to total consumer demand for goods and services and ultimately to the demand for labor used in their production. However, not all of the wages earned by immigrants are spent or saved in their new country; some earnings are sent back to relatives in countries from which they emigrated. There is a large literature documenting the beneficial impacts of such transfers in the origin country where the money is spent, saved, or invested (see Amuedo-Dorantes and Pozo, 2006; Rapoport and Docquier, 2006; Rodriguez and Tiongson, 2001; and Taylor, 1999). But from the perspective of the remittance-sending country, the outflow of income when immigrant workers send remittances “back home” reduces immigrant savings rates and consumption within the United States and deepens the deficit in the current account. The more they send home, the less they can contribute to domestic demand and savings. Little empirical work has been done to analyze the impact of immigration on consumer demand; even less has examined the role of remittances in this scenario.

Olney (2015) is one of the few studies to examine how remittance outflows affect the wages and income of native workers. Using a detailed microdata set that includes information on remittances and wages of immigrant and native-born workers in Germany, the study specified a model to test (1) the extent to which remittances dampen immigration-driven increases in the domestic consumer base and any positive impact on native wages that would be associated with them; and (2) the prediction that remittances will negatively impact wages of native workers in nontraded service industries (since these industries depend more heavily on local consumption) more than wages of native workers overall. The model employs an instrumental variables approach (see Section 5.3) to address endogeneity created if income shocks in particular areas lead simultaneously to higher native wages and to wealthier immigrants remitting more money than in other areas. In Germany, remittances equal roughly 1.3 percent of all income earned, meaning that a 1 percent increase in remittances decreases German national income by 0.013 percent. The model predicts that, as a result of dampened consumption in Germany, a 1 percent increase in the outflow of remittances will lead to a 0.027-0.056 percent decrease in wages (Olney, 2015, p. 23). This is a very small decrease—a loss of 7 to 8 euros on a 30,000-euro annual wage—and does not account for the large benefits derived from remittances in the less-developed countries to which they are sent.

2010; Cortés, 2008). However, immigrants are consumers as well as producers. And, although their average purchasing levels and patterns will not exactly mirror those of the rest of the population due to a range of factors, including the sending of remittances (see Box 6-1), immigrants contribute to the demand for goods and services, creating a potentially offsetting channel

Also important is that the outflow of remittances may have a number of indirect effects of varying magnitude. There is likely to be a small fiscal impact. To the extent that some portion of remitted money would have been spent in the United States, it reduces nonincome-based tax revenues such as sales taxes. There may be offsetting effects as well. The prospect of sending money home could also affect future migration rates by altering the financial calculus associated with the decision to migrate or by directly reducing chain migration. Improving the productive use of immigrant savings and remittances in fund-receiving countries could generate export demand for U.S. products.

Defining remittances as all transfers from the immigration-receiving country to the immigrants' country of origin, the literature distinguishes several motives for remittances, each of which is likely to be affected by the duration of migration. One reason for transferring money is to support family members back home; these are intrafamily transfers across national borders. As it is more likely that immigrants leave their families behind when they plan a return to the home country, this type of remittance flow is likely to be larger for temporary migrations. Funkhouser (1995) presented a simple model for such remittances. A second reason for remitting funds is to create savings held in the origin country for future consumption or investment purposes. Dustmann and Mestres (2010) found that temporary migrants were more likely to hold assets in their home countries. Third, maintaining the option to return to their home country may require immigrants to undertake investments and make contributions to the home community. If seen as an insurance mechanism, this also may be a remittance motive for migrants who currently do not plan to return. Batista and Umblijs (2014) analyzed the relationship between risk aversion and remittances among immigrants in Ireland. They found that more risk-averse individuals and those with higher wages were more likely to remit.

While this discussion emphasizes that remittances may reduce some of the benefits immigration confers on the destination country economy by reducing what immigrants spend and save domestically, such a focus ignores the important benefits that remittances confer upon the origin country. Moreover, native individuals and businesses also increasingly spend and invest abroad. Regardless of its source, such international capital flows are recognized by economists as having a substantial and important role in moving funds from rich to poor countries, which is needed to speed up global growth and reduce cross-country inequality and possibly also international migration.

through which market dynamics may be affected.¹² For example, foreign-born workers in the construction industry may lower the cost of producing new owner-occupied or rentable housing if they reduce wages—Current

¹²Bodvarsson et al. (2008) and Hercowitz and Yashiv (2002) showed that immigrants affect the demand for goods and services immediately upon arrival.

Population Survey data indicate they constitute about 25 percent of all workers in construction industries. However, because they also demand units in which to live,¹³ the impact on final prices is ambiguous.

Though the evidence is somewhat limited, the intensive infusion of lower-cost foreign-born labor into certain occupational sectors would be expected to reduce prices, benefiting consumers who purchase these goods and services (see Section 4.4). Among the foreign-born, unauthorized workers may do disproportionately more to reduce prices because they earn less than otherwise comparable authorized workers, foreign- or native-born. Benefits in the form of reduced costs of living created by lower prices to consumers should, as noted above, be largely restricted to nontraded services. Child care, eating out, house cleaning and repair, landscaping and gardening, taxi rides, and construction are a few examples of goods or services that must be produced and consumed in the same geographic location and for which prices are most likely to be affected by local availability of different pools of labor. While international trade allows production processes to be transported to where low-cost labor is located, immigration allows the low-cost labor to be brought to where production takes place. If one takes metropolitan areas as the unit of observation, the local concentration of low-skilled immigrants working in *traded* industries would be expected to have little to no impact on prices, at least at the local level (Cortés, 2008, p. 383).¹⁴

Using microdata from the BLS Consumer Price Indexes, Cortés (2008) estimated variation in prices across cities and over time in relation to the proportion of low-skilled immigrants in the working population. She found that, overall, a “10 percent increase in the share of low-skilled immigrants in the labor force of a city reduces prices of immigrant-intensive services, such as gardening, housekeeping, babysitting, and dry cleaning, by approximately 2 percent” (Cortés, 2008, p. 382).¹⁵ Over the period 1980-2000, this translated into a decrease in the prices of immigrant-intensive services by a city average of 9 to 11 percent. She found the decrease in prices to be

¹³Myers and Pitkin (2013) found that immigrants constituted 39 percent of the growth in homeowners over the period 2000-2010.

¹⁴There have been a few studies examining the impact on aggregate prices. For example, in their conclusions, Blanchflower et al. (2007) concluded “. . . at present it appears that A8 [visa] immigration has tended to increase supply by more than it has increased demand in the UK (in the short run), and thereby acted to reduce inflationary pressure.” Bentolila et al. (2007), using Spanish data, found high levels of immigration into Spain had a negative impact on inflation (0.9 percentage points per year), which helped to bring down the overall unemployment rate by almost 7 percentage points over the period 1999-2006.

¹⁵This finding provides some supports for the idea that low-skilled, foreign-born workers largely compete with one another. In the year 2000, 60 percent of high school dropouts were native born, yet they made up only a quarter of dropouts working in the gardening and housekeeping sectors (Cortés, 2008, p. 389).

driven by decreased wage bills for employers, mainly those who had hired immigrants who competed directly in the labor market populated by individuals of Hispanic origin with relatively low English proficiency.

Next, Cortés used BLS Consumer Expenditure Survey data to identify which groups have the highest propensity to consume goods and services produced by sectors making intensive use of immigrant labor. The overall effect on consumption baskets was found to be largest for high-income households, who are more likely than low-income households to consume products such as child care, landscaping, and restaurant meals that are immigrant-intensive in production. Immigrants working in child care and other household services influence labor market dynamics (and patterns of consumption) in a particularly important way. The lower cost of these services made possible by the increased supply of labor for their provision has allowed native and of course some immigrant families with comparatively high levels of education and income to outsource them. As a result, individuals in these households are able to redirect labor toward higher-earning market occupations. This link is investigated in Cortés and Tessada (2011) who, using Decennial Census data to track immigrant cohorts of the 1980s and 1990s, examined how low-skilled immigration affects the labor supply of highly educated women in the United States. They found a striking correspondence between the availability of low-cost, flexible housekeeping and child care services provided by the foreign-born and increases in the number of hours worked by women in high-salary jobs.¹⁶

Of course, lower-income households also benefit from reduced prices of clothing, housing, food, etc.; however, they (especially recent immigrant cohorts) have also been empirically shown to bear the brunt of any negative wage impacts associated with new immigration that occurs. As a result, the overall (net) effect on economic well-being is negative for some and positive for others, unless immigration-induced technological progress is sufficient to raise all wages. As put by Cortés (2008, p. 414):

The low-skilled immigration wave of the period 1980-2000 increased the purchasing power of high-skilled workers living in the 30 largest cities by an average of 0.32 percent and decreased the purchasing power of the typical native high school dropouts by a maximum of 1 percent and of Hispanic low skilled natives by 4.2 percent.

These findings support the conclusion that, through lower prices, low-skilled immigration created positive net benefits to the U.S. economy during

¹⁶For natives switching time from nonmarket work to market jobs, the reduction in their own home production does not count against GDP, whereas their new work, and that of workers they hire to do the same home tasks, is included in GDP. So, if measured by GDP only, the overall increase in the value of economic activity may be overstated.

the last two decades of the 20th century, while also generating a redistribution of wealth from low- to high-skilled native-born workers.

Immigration and the Housing Sector

Immigration significantly impacts local housing markets by contributing to the demand for apartments and single-family homes. If there is a resultant increase in home prices, then this raises the wealth of current homeowners. According to the Census Bureau, housing wealth (home equity) accounted for about 25 percent of total wealth in U.S. households in 2011.¹⁷ On the other hand, higher prices reduce housing affordability for potential home buyers. Housing expenses, including utilities and furnishings, account for 33.6 percent of average household consumer spending, with direct shelter expenses of 19.7 percent, compared to 17.6 percent of spending allocated to transportation and 12.9 percent for food. Spending on shelter is moderately higher in absolute terms for homeowners than renters, and spending by homeowners on utilities, supplies, and furnishings is considerably higher than it is for renters (U.S. Bureau of Labor Statistics, 2015b).

Demand for housing is a direct function of the rate of household formation, which depends on a host of demographic factors including immigration but also depends on the health of the economy. Household formation is defined as the net change in the number of households in a given period, also equivalent to the net change in occupied housing units (owned and rented combined). One inhibitor of the economic recovery following the Great Recession is that household formation has proceeded at less than one-half of its normal rate since 2007, eliminating the growth in spending that accompanies it (Paciorek, 2013).¹⁸ A decline in household formation is consistent with a delay in family formation, but it can also signal increased doubling up of individuals in shared housing who otherwise would have lived in separate units. The failure to increase occupancy of more housing units has its greatest impact on the construction industry, which tends to be sensitive to the business cycle.

Immigrants have accounted for roughly one-third of household formations during the last two decades. In the decade of 2000-2010, even though the pace of new immigrant arrivals was somewhat reduced, immigrants

¹⁷See <http://www.census.gov/people/wealth/files/Wealth%20Highlights%202011%20Revised%207-3-14.pdf> [November 2016].

¹⁸“This persistent weakness in the housing market has also contributed to the slow pace of the overall economic recovery. For example, the direct contribution of residential investment to annual GDP growth frequently reached 1 to 1.5 percentage points in recoveries prior to the mid-1980s. During the 3 years subsequent to the end of the recession in the second quarter of 2009, the contribution of residential investment to GDP averaged close to zero” (Paciorek, 2013, p. 2).

still accounted for 32.6 percent of the nation's household formations, partly because native-born household formation was contracting (Myers and Pitkin, 2013). The children of immigrants—the second generation—also add to household formation and the demand for housing. A study by the Harvard Joint Center for Housing Studies used tabulations of 1994 and 2014 Current Population Survey data to estimate that second-generation immigrants accounted for the largest share of growth in households among the under-30 cohort during the last 20 years (Masnick, 2015).

The long-term effects of immigrants in the housing market have been documented in a series of studies. The ever-rising share of household growth (owners and renters combined) accounted for by immigrants in recent decades in turn contributed to the demand for homes. Masnick (2015) calculated that the immigrant share of all owner-occupied units increased from 6.8 percent in 1994 to 11.2 percent in 2014. The immigrant share of homeowner *growth* rose from 10.5 percent in the 1980s to 20.9 percent in the 1990s, then to 39.2 percent in the 2000s, and is projected to be 35.7 percent in the 2010s (Myers and Liu, 2005; Myers and Pitkin, 2013). The immigrant share of rental unit growth was 26.4 percent in the 1980s, 60.4 percent in the 1990s, and 31.7 percent in the 2000s; it is projected to be 26.4 percent in the 2010s. The unusually high immigrant share of rental unit growth in the 1990s is attributed to an upswing in immigration in that decade, combined with a downswing in the population growth of native-born young adults, due to the arrival in adult years of the undersized cohort known as Generation X (those born from the mid-1960s to the early 1980s). Similarly, the high share of homeowner growth in the 2000s attributed to immigrants stemmed from advancement of that relatively small native-born cohort into prime home-buying ages, combined with the advancement of immigrants from rental to home-owning status. In the current decade, native-born homeowners are continuing to lag, with immigrants again supplying a large share of the growth that upholds house values.

Immigrants from Asian countries are observed to have higher homeownership rates than immigrants of Hispanic origin, and both rates have been lower than rates for other demographic groups, even after controlling for income (Alba and Logan, 1992; Coulson, 1999).¹⁹ However, one of the strongest findings in the immigrant housing literature is that immigrants advance rapidly into homeownership the longer they reside in the United States, with especially steep gains among Hispanics, who start from lower levels (Myers and Lee, 1998). The research indicates that the gains for the

¹⁹Estimates based on the Current Population Survey Annual Social and Economic Supplement (IPUMS) indicate that homeownership rates (the number of owner-occupied housing units divided by the total number of occupied housing units) for Asian and Hispanic groups in 2010 were about 59 and 48 respectively, compared to around 68 for the nation as a whole.

housing market from new immigrant arrivals continue to increase for three decades after their arrival.

The discussion above suggests that immigration, like any increase in the population, has the potential to drive up an area's house prices because, at least in the short run, the supply of housing is relatively inelastic. This is beneficial for homeowners and those who derive income from renting out accommodations. For natives who do not already own homes, whether they plan to continue renting or aspire to eventually purchase a home, this represents an increase in the cost of living. Ottaviano and Peri (2005) and Saiz (2003, 2007) found that the price of housing in metropolitan areas was systematically positively correlated with immigration. Saiz (2003) found strong evidence that the Mariel Boatlift influx of immigrants had a pronounced impact on the Miami housing market for several years following the event. Using a difference-in-difference approach common to spatial wage studies (covered in Chapter 5), he found that the unexpected shock to housing demand caused short-run rental prices in Miami to increase by 8-11 percent more than those for comparable housing markets.

Studies of a more general set of U.S. metropolitan areas have also found this demand-driven impact on the price of housing services. Saiz (2007) estimated that an inflow of legal immigrants equal to 1 percent of the total population would be expected to lead to an increase of about 1 percent for both rents and housing values.²⁰ Ottaviano and Peri (2012) found the increase in housing prices from a similar event to be between 1.1 percent and 1.6 percent. Because immigrants tend to locate in cities with faster wage (and possible housing price) growth, analyzing local labor market impacts of immigration on native outcomes without controlling for city characteristics will bias estimates. Vigdor (2013) examined the contribution of immigrants in the creation of housing wealth in places like New York City, particularly in downtown neighborhoods, while also showing how prices have stabilized in Rust Belt cities. The study, conducted using county-level data spanning 1970 to 2010, found "the most pronounced impact of immigration on housing values was in thriving Sun Belt cities that remain affordable and in declining Rust Belt cities where immigration acts as a barrier against even greater declines in home values" (Vigdor, 2013).

It should be noted that data limitations make housing price studies difficult in part because most of the data used must be aggregated to at least the metropolitan-area level. If immigrants cluster in specific neighborhoods within metropolitan areas, then analyses using Decennial Census

²⁰For the United States, Saiz (2007) and Saiz and Wachter (2011) found that immigration raises rents and housing values in destination cities, with population and rents rising in proportion. Within cities, the most immigrant-dense neighborhoods saw relatively slower price increases, an effect the authors attributed to native exits and increased urban-level segregation.

data will dilute effects of immigration on housing prices because the data are aggregated for the entire metropolitan area. Thus, data that can be further disaggregated to the area of individual neighborhoods or smaller levels are needed to accurately assess the impact of immigration on housing. Saiz and Wachter (2011) used track-level data from the Decennial Census to show that, even in the presence of an overall positive relationship between housing values and in-migration at the metropolitan area level, a negative relationship often emerges at the neighborhood level. This observation is indicative that immigration may be inducing sorting across neighborhoods as opposed to across metropolitan areas (this sorting still has distributional consequences). Findings by Cascio and Lewis (2011) based on school district level data sources suggest that the negative relationship between in-migration to neighborhoods and housing values may be partly accounted for by parents' housing choices based on preferences regarding the ethnic composition of public schools.

6.5 THE ROLE OF IMMIGRATION IN LONG-RUN ECONOMIC GROWTH

As discussed in detail in Chapter 5, much of the research on the economic impact of immigration, such as that focusing on labor market effects, takes a somewhat short-run perspective. While these analyses typically distinguish time durations too short for firms to adjust capital from durations sufficient to allow such adjustments (“the long run”), the focus of the latter is still typically not on periods of history long enough to follow determinants of economic growth. So a further distinction must be made between analyses examining “long-run” changes in wages and employment (as “the long run” was defined for the purposes of Chapter 5) and analyses of the sources of *growth* in an economy. The latter are concerned with the impact of immigration on trends in GDP growth that unfold over decades, not years.

Solow (1956) famously devised a model in which growth in an economy's total output derives from accumulation of the factors of production.²¹ As a nation's capital and labor inputs expand—and, crucially, technological progress occurs—economic growth is generated. Factor accumulation alone cannot sustain growth in per capita income; technological progress is needed to overcome diminishing marginal returns to variable factors of production. The contributions of expanding labor and capital are directly accounted for in the production function, while the effects of technological change enter as a residual. The growth in total output is thus

²¹Presentation of Solow's “neoclassical” growth model can be found in any good macroeconomic text such as Mankiw (2008). Bodvarsson and Van den Berg (2009) presented a graphical representation of the Solow model in the context of the economics of immigration.

accounted for by the growth in the supply of inputs, subject to the depreciation rate of capital, and by growth in total factor productivity due to growth in technology—all determined exogenously.

As explored in detail in Chapters 4 and 5, this aggregate production function framework linking inputs to outputs is a foundational feature of much of the empirical literature measuring the effect of immigration on wages and employment;²² it provides a method of combining workers of different skills in order to evaluate competitive effects as well as cross-skill complementary effects of immigrants on wages (Ottaviano and Peri, 2012). The structural model studies using the factor proportions approach reviewed in Chapter 5 largely follow Solow by assuming a constant elasticity of substitution baseline production function.

A shortcoming of early growth models was that, once an economy had accumulated a level of physical capital sufficient to meet needs dictated by the current production technology, any further economic growth was predicated on improving that technology, which was exogenously determined. More recent models have introduced investments in knowledge—for example, human capital and innovative activity—to provide a mechanism with which to account for economic growth within the processes modeled, in effect connecting growth to internal forces within the economy and thereby making it endogenous (with respect to that model). In essence, endogenous growth models start where the Solow-type growth model ends. With human capital or other knowledge recognized as critical and *controllable* factors, people’s ideas and innovations become a component of technology that is subject to deliberate investment decisions; this treatment, in turn, allows the model to project self-sustaining and persistent long-term growth in both per capita and aggregate output.

Models such as those developed by Romer (1990) and Lucas (1988) shift the analytic emphasis from factor accumulation to increases in productivity by allowing the growth rate of technological progress to be determined within the system rather than exogenously. Barro (1991) and Mankiw et al. (1992) also refined empirical growth modeling by adding the concept of human capital—which includes the knowledge, skills, and experience possessed by individuals—as a factor of production. Since human capital is largely unobserved, Barro used level of academic achievement (education) as a proxy and found the variable to be statistically significant and positively related to economic growth over time. Similarly, Baumol (1993, pp. 259-260) concluded that “. . . so far as capital investment, education, and the like are concerned, one can best proceed by treating them

²²For example, a nested, constant elasticity of substitution production function was used in Borjas and Katz (2007); Borjas et al. (1997); Card (2009); D’Amuri et al. (2010); Ottaviano and Peri (2012); and other studies.

as *endogenous* variables in a sequential process—in other words, these variables affect productivity growth, but productivity growth, in turn, itself influences the value of these variables, after some lag. These endogenous influences are, then, critical components of a feedback process.”

One motivation behind endogenous growth modeling is to reveal how human capital—specifically the generation of new ideas through research and development (R&D) that create new products and production processes—advances the technological frontier and translates into productivity gains (Lucas, 1988; Romer, 1990). Competition is also created among firms when entrepreneurs create businesses around new ideas (Aghion et al., 2009; Schumpeter, 1950). This reassessment of economic growth processes is potentially very important for characterizing the economic contributions of the foreign-born because immigrants bring with them, and acquire, levels of human capital that are different from those of the general population.

“Endogenizing” human capital into the growth model can allow for consideration, as discussed in Section 5.5, of how innovation and entrepreneurship injected into an economy by immigrants may alter total factor productivity and, in turn, long-term growth in economic output. Peri et al. (2014) found, for example, that STEM workers (foreign- and native-born) may have accounted for 30-50 percent of all U.S. productivity growth between 1990 and 2010. Within endogenous growth frameworks, immigration provides labor and human capital factor growth—the working-age population in countries like Germany and Japan would actually be shrinking (or, in the case of the latter, shrinking more) without it—as well as other forms of capital such as financial, social, and cultural capital. Skilled migrants especially may influence drivers of productivity such as entrepreneurship (discussed in Section 6.4), investment, and innovation (Section 5.5 provides support for this).

The Main Ideas Underlying the Endogenous Growth Concept

The essence of endogenous growth theory is that the persistent and largely uninterrupted growth in per capita income in the United States and other developed economies over the past 170 years or so can be explained as the outcome of continuous investments in human capital and knowledge formation, or in direct innovative activity at the firm and industry levels, which serve as engines of advancement in total factor productivity and per capita income.²³ While the literature varies in terms of the way that the

²³Though such growth is ordinarily accompanied by investment in and accumulation of physical capital as well, models that rely solely on the physical capital channel either cannot bring about sustained growth over long time periods or generate empirically implausible predictions.

mechanics and motivating forces of this process are identified, all endogenous growth models share two basic characteristics. One is that the process can be self-sustaining because of continuing *investments* that individuals, families, and firms make in the formation of human capital and associated physical capital. The other is that the process is invariably aided by knowledge spillover effects²⁴ and related economies in the process of knowledge formation or technological innovations that bring about not just a self-sustaining *level* of productivity and (per capita) income, but a continuous *rate* of growth. Transitions from lower stages of economic development into regimes of continuous productivity growth occur endogenously within the economy through optimal allocation of productive resources into learning, education, basic science, and R&D, rather than exclusively through discrete technological breakthroughs that occur randomly and unpredictably in a way that is largely exogenous to the economy.

Innovation and knowledge formation occur not just through investments by the native population; they can be affected by immigration as well. While most of the theoretical literature on endogenous growth has so far been formulated in a closed-economy set-up, there is a fledgling strand, described below, that is exploring the relevance of immigration to knowledge formation in an open-economy setting. Skilled immigrants contribute to knowledge formation through their own acquired knowledge as well as via “diversity effects” in knowledge formation, as modeled in Ehrlich and Kim (2015).²⁵ As noted by Hanson (2012), the flow of innovation is constrained by the supply of talented scientists, engineers, and other technical personnel; immigration helps relax this constraint, both in theory and in practice:

Each year, U.S. universities conduct a global talent search for the brightest minds to admit to their graduate programs. Increasingly, foreign students occupy the top spots in the search. Data from the National Science Foundation’s Survey of Earned Doctorates show that between 1960 and the late 2000s, the share of PhDs awarded to foreign students rose from one fifth to three fourths in mathematics, computer science, and engineering; from

²⁴Knowledge spillover effects are those that create impacts beyond the entity in which they occurred—for example, when knowledge or ideas accumulated by a specialized or geographically concentrated group of agents stimulate knowledge formation in others through interaction among agents within an organization or through transmission of knowledge across various communication and networking channels outside an organization.

²⁵At a highly aggregated (national) level, Alesina et al. (2016, p. 101) found that greater diversity of the skilled workforce (defined by people’s birthplaces) “relates positively to economic development (as measured by income and TFP [total factor productivity] per capita and patent intensity) even after controlling for ethno-linguistic and genetic fractionalization, geography, trade, education, institutions and origin-effects capturing income/productivity levels in the immigrants’ home countries.”

one fifth to three fifths in physical sciences; and from one fifth to one half in life sciences (Hanson, 2012, p. 26).

This process contributes to U.S. economic growth due to the fact that many foreign students stay after completing their schooling; for example, Finn et al. (2005) found that almost two-thirds of foreign-born students in science and engineering fields remained in the United States a decade after they earned their doctoral degree.

Approaches to Modeling the Mechanics of Endogenous Growth

The two main approaches used to identify the engines of economic growth in this literature are the human-capital-based models and the R&D-based technology-production models. Models using either approach replace the assumption that the technology is exogenous with one in which the economy can grow endogenously through deliberate investments in infrastructure and basic science by individuals, private firms, and the government.

The human-capital-based approach focuses on investments in human knowledge, cognitive skills, and higher education, along with other determinants of human capital (fertility, health, population size). Individuals and families invest in their own or their offspring's learning capacity and knowledge formation.²⁶ Such knowledge production can lead to self-sustaining, long-term growth in total factor productivity and per capita income on the assumption that "knowledge is the only factor of production that is not subject to diminishing returns" (see Clark, 1923, p. 120).

The technology production approach focuses on technological innovations that are driven by profit-maximizing firms investing in R&D and competing over innovations that yield higher-quality products and production processes or greater variety and superior quality of new goods, innovations that lead to self-generating expansion in real output per capita and individual welfare.²⁷ This technology production is generally assumed to

²⁶This may be motivated by economic, altruistic, and related intergenerational objectives. The literature following this approach includes the path-setting contributions by Lucas (1988), Becker et al. (1990), and other studies included in Ehrlich (1990), which were based on dynastic-type models of investment in general human capital and fertility. Further expansions by Ehrlich and Kim (2007), Ehrlich and Lui (1991), and Galor and Moav (2004) used overlapping-generations frameworks to identify the role of additional factors that motivate individuals and parents to invest in the education, skill, and health of their children as well as complementary factors of production that enhance human capital formation and economic growth.

²⁷The literature following this approach, which includes Romer (1986, 1990) and Stokey (1988), emphasizes profits and rewards to innovators, as well as the market structure within which innovations are produced, as motivating forces influencing investment in innovation and growth.

be subject to economies of scale in R&D production. Even this literature, however, recognizes human capital formation as a critical factor that contributes to innovation.

The bulk of the endogenous growth model literature consists of closed-economy models, which means they do not account for trade and immigration. (The Technical Annex to this chapter, Section 6.8, illustrates the mechanics through which endogenous growth can occur in closed-economy models.) They do, however, emphasize the specific role higher education plays in the development process, essentially because tertiary education is more likely to contribute innovative ideas that enhance scientific and entrepreneurial innovations. Moreover, higher-skilled workers and inventors can generate knowledge spillover effects that enhance knowledge formation and the productivity of lower-skilled workers with whom they interact in production and job training. There is indeed a general recognition in both the literature on innovation and the endogenous growth literature that the processes of knowledge formation, innovation, and economic growth are enhanced not just by individuals' own educational investments but also by the spillover effects conferred by the interaction within and across different skill groups, and thus also by the average skill level and educational attainments in the population.

Beyond the closed-economy models, there is a nascent literature on endogenous growth that adopts an explicit or implicit open-economy setting that allows for the role of immigration in enhancing either R&D/new goods production or human capital formation. The product-innovation-based models of an open-economy focus on the potential contribution of immigrants to the scale of the labor force employed in the R&D sector of the economy through various channels. For example, Lundborg and Segerstrom (2000, 2002) developed two versions of an open-economy model with two trading countries (either “North-North” with two rich countries, or “North-South” with a rich and a poor country) in which self-sustaining growth occurs through continuous product innovation. Firms in both countries compete to become leaders in introducing improved quality products, which are then adopted by consumers in both countries through trade. Growth is measured in terms of real consumption or utility from quality product innovations. Since all products are available to consumers in both countries, both countries share the same growth rate.

The R&D production function in this “quality ladder” model is subject to scale economies, so the equilibrium rate of growth in consumer utility is determined by the size of the labor force engaged in R&D production. Immigration matters in these models simply because it increases population and labor force size. When immigration occurs, the productivity gains enjoyed by the receiving country are offset by productivity losses in the sending country. Where the countries have similar production technolo-

gies but different population endowments and wages, (as in Lundborg and Segerstrom, 2000), there are efficiency gains from workers migrating from the more populated to the less populated country. In Lundborg and Segerstrom (2002), where the North has superior R&D production technology and wages are initially higher, immigration is again treated as an exogenous variable that is determined through the imposition of quotas. In both cases, immigration leads to more efficient production and world output rises. However, immigration reduces the welfare of the receiving country's workers in the case where natives' wages fall.

Another example of an innovation-based model is from Drinkwater et al. (2007), who adopted a model with R&D production serving as the engine of growth. The economy in this model consists of three sectors producing ordinary manufacturing goods and R&D output consisting of blueprints for new varieties of goods. Unlike the Lundborg and Segerstrom (2000, 2002) models, this model recognizes two types of workers—skilled and unskilled—as well as physical capital, and employment in R&D is assumed to be relatively skill-intensive. Self-sustaining growth in income occurs as a result of external economies generated by the “density” of new product varieties: the ratio of new products relative to the economy's population, rather than population size itself. The authors call this density of new product varieties “knowledge capital.”

The focus of the Drinkwater et al. study (2007) is on how immigration, treated as exogenous, affects the receiving country's long-term growth and the net benefit to natives in that country: the “immigration surplus.” Calibrated simulation runs of the model indicate that if immigration involves exclusively high-skilled migrants, the growth rate of real income rises due to an increase in skill-intensive R&D activity. In contrast, the net real income benefits to natives were negative if immigration was exclusively low skilled. These results derived from simulations in which skilled labor and physical capital were assumed to be substitutes in production, but the same qualitative results were obtained in simulations where the two factors were modeled as complementary. The welfare implications remain the same when measured in utility terms, rather than real income terms, in the two illustrated cases in which immigrants were exclusively high skilled or low skilled.

The human-capital-based models focus on the channels through which human capital formation and migration contribute to growth. Zak et al. (2002) developed an overlapping-generations model in which growth is enabled through human capital formation. Children's human capital grows if parents choose to lower fertility, which varies as a function of household income. The economy may be in one of three possible development states: a “poverty trap,” a “middle-income trap,” or a balanced-growth equilibrium

path.²⁸ The prospect of growth depends on the economy's initial distributions of human capital among natives and immigrants, its initial levels of physical capital, and its "political capacity." All inputs must be sufficiently above a threshold level to enable reaching the balanced growth path. Simulation runs using this model indicate that migration can enhance the level of the growth equilibrium path in the receiving economy only within specific bounds. If the migration inflow is sufficiently high or the human capital of immigrants relative to natives is sufficiently low, the development trajectory of an initially growing economy can reverse, starting a slide toward the poverty trap. But high-income receiving countries are more likely to benefit from a skill distribution of migrants that is skewed toward high levels of human capital. More generally, the model implies that, while skilled immigration can favorably affect the rate of convergence to a balanced growth path or the likelihood the latter occurs, it does not affect the economy's growth rate if the economy is already in a growth equilibrium.

Ehrlich and Kim (2015) added a new dimension to the human-capital-based endogenous growth model that allows for international labor mobility by treating the flow of immigrants and their skill composition, as well as human capital formation, income distribution, and economic growth, as endogenous variables. To this end, they pursue an open-economy model recognizing two interacting countries—destination and source—as well as two types of workers: skilled and unskilled. For analytical convenience, these workers are assumed to be employed exclusively in two sectors producing high tech and low tech consumer goods, respectively. The goods production functions exhibit constant returns to scale in effective labor hours, but they are also subject to external effects that are decreasing in the quantity of workers but increasing in the average worker's human capital due to workplace interactions among workers. The model recognizes both fertility and investment in human capital to be endogenous variables that are determined by parents within each skill type. To derive globally balanced growth equilibrium paths in both countries, the skilled and unskilled natives and immigrants are linked through spillover effects in knowledge production across skill group within each country, as well as across the same skill groups across the receiving and sending countries. The model offers theoretical propositions and supporting empirical evidence showing that a skill-biased technological shock (SBTS), can, for example, lead to a higher skill composition in the migration to receiving countries and that such induced migration can contribute to a higher balanced growth path of per capita income while also moderating the increase in the level of income inequality within receiving countries, both of which occur as a result of the SBTS. In an extended model, the authors allow human capital formation

²⁸As in Becker et al. (1990).

to also benefit from “diversity effects” due to complementarities between immigrants and natives in knowledge production.

Empirical Evidence of the Role of Human Capital in Migration and Growth

The treatment of immigration flows and the skill distribution of natives and immigrants as exogenous variables is common to the above-described endogenous growth literature. The work by Ehrlich and Kim (2015) differs in that it treats both the growth prospect and the distributions of skill types and human capital attainments in receiving and sending countries and among immigrants as endogenous outcomes of underlying exogenous parameters, including those affecting the production and transmission of knowledge and the costs of parental investments in the quantity and human capital attainments of children. The model can therefore offer testable implications about the impact of changes in the volume and skill distribution of migration flows and population shares, as well as the impact of these changes on the global economy’s balanced growth path.

A plausible scenario in Ehrlich and Kim (2015) that leads to testable implications is one in which a skill-biased technological advance occurs either in just the receiving country or in both the receiving and sending countries simultaneously. A real-world example is the information technology revolution that started in the 1970s, became widely spread around the world in the following decades, and is still continuing. Analytical considerations and calibrated numerical simulation in Ehrlich and Kim (2015) imply that such technological advances generate a higher rate of human capital formation and full-income growth, as well as a generally *rising* level and share of skilled migrants relative to both the migrant and native populations in the receiving countries.

The latter implications have been tested against data from two international panels reporting the skill composition of migrant populations, indicated by college educational attainments: (1) a World Bank panel assembled by Schiff and Sjoblom (2008), including data on the 6 major receiving countries of immigration from 190 sending countries over the period 1975-2000; and (2) a 2013 panel assembled by the Institute for Employment Research, Nuremberg, Germany, (Institut für Arbeitsmarkt- und Berufsforschung, IAB), which contains data on the same receiving countries over the period 1980-2010. Both panels use aggregate census data on immigration assembled by each of the receiving countries. The metric for high skill employed in these panels is having “at least some tertiary education” (13-plus years of schooling).

Regression analysis conducted by Ehrlich and Kim (2015) based on the World Bank data for five of the six major receiving countries²⁹—Australia, Canada, France, the United Kingdom, and the United States—indicates that the high-skilled component of net migrant flows from the 190 sending countries has indeed been continually rising over the entire sample period.³⁰ Detailed raw data from both the World Bank and IAB panels confirm this pattern for each of the receiving countries. Moreover, while the native-born populations in the five receiving countries have experienced a rising trend in the same skill composition measures over the same period, the rise in the skill level of migrant populations has exceeded that in the native-born populations for most of them.

These findings from the World Bank and IAB panels are corroborated by more recent and detailed data from the U.S. Census Bureau. As Table 6-1 indicates, the percentage of the foreign-born population in the United States with bachelor and higher degrees has been generally rising by year of entry of immigrants even before 1970. For those entering the United States over that table's most recent period (2000-2012), the percentage of immigrants with a college degree or higher (32.9%) exceeds that of the native population in 2012 (31.3%, as shown in Table 6-2). As Table 6-2 also shows, in 2012 the percentages of Asian and European immigrants with bachelor and higher degrees were substantially higher than the percentage of the native-born population, while the percentages of Latin American (all) and Mexican immigrants with bachelor and higher degrees were substantially lower. A similar trend is found using Decennial Census data assembled by Smith (2014b) for the *average* years of schooling over an even longer period: 1940-2010 (see Table 6-3). By this measure, while the average years of schooling of all foreign-born entrants is still below that of natives in 2010, the gap has been narrowing over time, with Asian and European migrants' average years of schooling again exceeding that of the native-born population.

The Immigration Surplus in Endogenous Growth Models

The endogenous growth paradigm, which focuses on the long-term dynamic implications of immigration, also offers new insights concerning the measurement of the net economic costs and benefits to natives associated with immigration—what the literature has often termed the “immi-

²⁹The sixth country, Germany, was excluded due to absence of relevant time series data for a reunified Germany prior to 1990.

³⁰This pattern was derived from fixed effects models regressing *changes* in migrant population stocks on GDP (in cubic transformation) in destination countries, GDP in source countries, and other standard correlates.

gration surplus.” The standard approach for measuring the immigration surplus is based on a static framework in which the capital stock is a given constant, production of output is subject to constant returns to scale, and the economy is competitive. The surplus is then assessed as the difference between the increased output, which by definition is equal to the income of all natives in the economy (workers and owners of capital) resulting from migration, and the reduced labor wages of native workers brought about by the increased labor supply due to migration (see the simple models described in Chapter 4). Variations in this standard approach include allowances for different labor skills and possible discrete shifts in the economy’s capital stock that may accompany the migration increase. The immigration surplus thus measured is positive, but small—typically less than 1 percent of GDP (see Borjas, 1995b, and Chapter 4).

The difference between the measures of the conventional immigration surplus generated in static models or in dynamic models with exogenously determined growth and those based on the endogenous growth paradigms is that the latter account for the way immigration interacts with the economy’s human capital formation and self-sustaining growth. While it may seem that, by comparison, the measures derived in an endogenous growth context would always result in larger positive magnitudes than the static measures, the literature surveyed below indicates that this is not necessarily the case. Indeed, two of the studies—Drinkwater et al. (2003) and Ehrlich and Kim (2015)—computed the immigration surplus using numerical simulations and found that the estimates can be either larger or smaller than those derived under static conditions, depending on assumptions regarding the mix of high- versus low-skilled immigrants.

The Drinkwater et al. (2003) study provides estimates of the immigration surplus using both a baseline model, where no complementarities between skilled labor and physical capital are assumed, and an alternative model where such complementarities are allowed (the results for the alternative model are shown in parentheses below). If migration is restricted to include exclusively high-skilled migrants, it can result in a dynamic immigration surplus as high as a 3.6 percent (4.3%) increase in the steady-state consumption equivalent for a representative household in the destination country, compared to as low as a 0.33 percent (0.55%) increase in the static case. In contrast, if immigration is restricted exclusively to unskilled migrants, the dynamic immigration surplus becomes negative—as low as –3.5 percent (–4.0%) of the consumption equivalent of the representative household, as opposed to a positive level of 0.18 percent (0.04%) in the static case. Each skill group in the destination country gains less than the representative household when immigration is exclusively by the same skill group, but the change affects more heavily the unskilled group in both the dynamic and static cases. The immigrant surplus magnitudes of

TABLE 6-1 Educational Attainment as of 2012 of the Foreign-born Population (in thousands), Ages 25 and Older, by Year of Entry

Population (total or by degree attainment)	Total		Year of Entry	
			2000 or later	
	Number	%	Number	%
Total Population	34,162	100.0	10,609	100.0
High School and Above	24,477	71.7	7,607	71.1
Bachelor's and Above	9,943	29.1	3,491	32.9
Master's and Above	3,826	11.2	1,450	13.7
Doctorate	686	2.0	270	2.5

NOTE: In 2012, the percentages of the native population that had attained high school and above, bachelor's and above, master's and above, and doctorate were 90.9%, 31.3%, 11.1%, and 1.5%, respectively.
SOURCE: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2012, Table 2.5. Available: <https://www.census.gov/data/tables/2012/demo/foreign-born/cps-2012.html> [May 2017].

TABLE 6-2 Educational Attainment as of 2012 of the U.S. Foreign-born and Native-born Populations (in thousands), Ages 25 and Older, by World Region of Birth

Population (total or by degree attainment)	Total Foreign-Born		Natives	
	Number	%	Number	%
Total	34,162	100.0	170,418	100.0
High School and Above	24,477	71.7	154,826	90.9
Bachelor's and Above	9,943	29.1	53,348	31.3
Master's and Above	3,826	11.2	18,904	11.1
Doctorate	686	2.0	2,492	1.5

SOURCE: U.S. Census Bureau, Current Population Survey, Annual Social and Economic Supplement, 2012, Table 2.5. Available: <https://www.census.gov/data/tables/2012/demo/foreign-born/cps-2012.html> [May 2017].

1990-1999		1980-1989		1970-1979		Before 1970	
Number	%	Number	%	Number	%	Number	%
9,546	100.0	7,027	100.0	3,867	100.0	3,112	100.0
6,747	70.7	4,921	70.0	826.0	73.1	2,376	76.3
2,665	27.9	1,943	27.7	1,078	27.9	766	24.6
1,008	10.6	665	9.5	390	10.1	314	10.1
158	1.7	129	1.8	68	1.8	61	2.0

World Region of Birth									
Asia		Europe		Latin America		Mexico		Other	
				All					
Number	%	Number	%	Number	%	Number	%	Number	%
9,823	100.0	4,075	100.0	17,971	100.0	9,881	100.0	2,292	100.0
8,595	87.5	3,675	90.2	10,118	56.3	4,215	42.7	2,089	91.1
4,939	50.3	1,688	41.4	2,314	12.9	593	6.0	1,002	43.7
2,027	20.6	715	17.5	684	3.8	144	1.5	401	17.5
387	3.9	152	3.7	77	0.4	13	0.1	71	3.1

TABLE 6-3 Mean Years of Schooling of U.S.-born Versus All and Recent Foreign-born Immigrant Populations by World Region of Birth

Population by Birth Origin and Years in U.S. (for foreign-born)	2010	2002	1996	1990	1980	1970	1960	1950	1940
All U.S.-born	13.59	13.31	12.99	12.61	11.78	10.84	10.01	9.43	8.77
All foreign-born	12.27	12.00	11.51	11.31	10.59	8.97	7.74	7.46	6.68
1-5 years in U.S.	12.53	12.32	11.73	11.65	11.25	10.36	9.95	NA	8.90
Foreign-born, Asian	14.22	13.96	13.28	12.94	13.17	11.32	8.37	7.24	7.76
1-5 years in U.S., Asian	14.07	14.73	13.13	12.90	12.50	13.46	12.08	NA	10.44
Foreign-born, European	13.89	13.58	12.89	11.94	10.29	8.99	7.83	7.39	6.74
1-5 years in U.S., European	14.05	14.61	14.65	13.63	12.11	10.35	10.32	NA	8.95
Foreign-born, Hispanic	10.39	9.81	9.27	9.23	8.91	7.91	5.99	5.79	4.71
1-5 years in U.S., Hispanic	10.33	9.84	8.41	9.14	8.26	8.40	7.23	NA	7.25
Foreign-born, Mexican	9.51	8.66	7.93	7.71	6.74	5.59	4.39	4.53	3.97
1-5 years in U.S., Mexican	9.56	8.53	7.52	7.83	6.33	5.93	4.58	NA	6.06

SOURCE: Smith (2014b, Table 4.3); based on Decennial Census data, 1940-1990, and March Current Population Survey for 1996-2000.

the opposite effects become even larger when the Drinkwater et al. (2003) simulations allow for a complementary relation between skilled labor and physical capital (the corresponding percentage changes are shown by the parenthetical figures above).

In the Ehrlich and Kim (2015) benchmark model, the immigration surplus generated by the endogenous increase in immigration is also found to be higher for the average household of natives in the destination country, but it reflects opposite net gains to skilled and unskilled native households (thus generating distributional effects similar to those derived in Drinkwater et al., 2007). Skilled households gain less than the average household and unskilled households gain more. Specifically, in the Ehrlich and Kim model, the percentage change in the full income per capita (FIPC) experienced by natives in the destination country following a SBTS is measured using two scenarios: (a) when the skill composition of immigrants at the destination country is free to adjust following the SBTS, and (b) when the skill composition is confined by an immigration policy restricting it to remain fixed at its initial equilibrium steady state. The percentage difference in the natives' FIPC in scenario (a) versus (b) accounts for the net benefits from the *unrestricted migration* scenario relative to the *restricted migration* scenario, which in this model is the immigration surplus. Ehrlich and Kim estimated this immigration surplus to be 1.48 percent of the natives' FIPC at the end of a 15-generations period, which is equivalent to a modest 0.003 percentage point gain in the average annual growth rate of FIPC over that period. This long period is selected for illustration as it approximates the period over which the economy approaches a new steady state. Note, however, that the rise in the FIPC under these conditions, as well as under the conditions of the simulations reported below, already appears after the first generation following the SBTS and continues over the entire transition phase leading to a new steady state.³¹

Ehrlich and Kim (2015) also simulated the immigration surplus under two alternative scenarios: (a) when the skill composition of immigrants is freely determined in an initial equilibrium steady state at the destination country, and (b) when the destination country *disallows altogether* the migration of either skilled or unskilled migrants. Here, if skilled migration is disallowed, the difference in FIPC between the unrestricted and restricted

³¹Tables 3 and 4 in Ehrlich and Kim (2015) illustrate the magnitudes of the immigration surplus over 5 and 10 generations, as well as the 15-generation period. It is interesting that the *percentage* changes in the natives' initial FIPC in the generations immediately following the SBTS are estimated to be slightly higher than those after 15 years. But the immigration surplus thus measured is "partial": it captures the net benefits from *additional* unrestricted immigration following an SBTS, starting from positive values, rather than *zero* values of skilled and unskilled migration following the SBTS. The latter are captured by the estimates based on the alternative scenarios in the following paragraphs.

immigration scenarios is significantly more pronounced in the benchmark case, where it amounts to a cumulative gain in the natives' initial FIPC of 79.8 percent after 15 generations, equivalent to a 0.376 percentage point gain in the average annual growth rate of FIPC in the unrestricted immigration scenario relative to the restricted immigration scenario over this period. However, the opposite outcome occurs when the destination country disallows any unskilled migration. In this case, natives experience a *gain* of 33.0 percent in FIPC in the restricted immigration scenario relative to the unrestricted scenario (i.e., an immigration surplus of -33.0%) after a period of 15 generations, or a change in the average annual growth rate of FIPC of -0.058 percentage points per annum over this period.

Larger estimates of the immigration surplus are computed in Ehrlich and Kim's (2015) extended model, which allows for positive complementarities or "diversity effects" in knowledge production across natives and immigrants of the same skill group. For example, the immigration surplus in the case where *all* migration is disallowed in the destination country amounts to a persistent gain of 0.593 percent in the annual growth rate of FIPC after a 15-generations period.

Bear in mind that all the immigration surplus estimates reviewed in this section are theoretical and subject to limiting assumptions. They do indicate, however, that the long-term dynamic immigration surplus could far exceed its estimates based on static models, both on the up side and the down side. This realization opens up opportunities for immigration policies that could enhance the benefits of migration to both destination and source countries.

6.6 BEYOND GDP—NONMARKET GOODS AND SERVICES AND THE INFORMAL ECONOMY

Immigrants, like their native-born counterparts, also contribute to the economy in ways that are not, or at least not fully, captured by market-based economic statistics such as GDP and employment rates.³² Much labor used in the provision of health, child, and elder care for family members or friends, for example, goes undetected in official statistics, as a substantial

³²Becker (1991) observed that extensive, economically valuable work—from care activities to home maintenance—goes on inside the family but is largely unrecognized in conventional measures of economic output. The National Research Council (2005) report *Beyond the Market* explores in great detail methods for accounting for nonmarket economic activities in the areas of household production, investment in education, investment in health, selected government and nonprofit sector activities, and environmental assets and services.

amount of that valued activity is nonmarket in nature.³³ Immigrant women play a particularly important role in housework and child care, whether done for their own families, working in informal arrangements (which may be market or nonmarket based) for others, or in formal employment. Female participation rates of immigrants in market work are on average lower than for native-born females, indicating that they may be engaged in more nonmarket production. Also, immigrants more often live “doubled up” or in extended family situations, raising the possibility of greater nonmarket production or a shifting of who is doing it (e.g., grandma watches the kids while mom works) relative to nonimmigrant households where child care and other services are more likely to be purchased in the market.

Because home-produced services do not involve market transactions, some of the economic benefits of family-based immigration policies may be underestimated or overlooked by conventional economic statistics. However, the American Time Use Survey has allowed researchers to begin examining immigrant-native differences in nonmarket work. Ribar (2012) provided a broad overview of immigrant time use, using data from this survey. His study confirmed that immigrant women in his dataset devoted more time to household production (caregiving and housework) than native-born women. He also found that they spent more time sleeping. Immigrant men spent more time in market work and less time performing housework, community activities, and leisure than did native-born men.³⁴ Vargas (2016) found that results vary considerably by country of origin, but over time, immigrant time use becomes more like that of natives.

Alesina and Giuliano (2007) examined time use patterns as well and found that, relative to population averages, strong family ties³⁵ are associated with a higher number of hours spent in home production and lower labor force participation of women, as well as less reliance on the government for social insurance. Abrams (2013) discussed easy to overlook (and difficult to measure) benefits of family-based immigration policy and assessed the role of immigrants who may not participate in wage-paying labor but who nonetheless contribute in economically valuable ways by providing “unpaid care work in the homes of relatives who are participat-

³³A common illustrative example is an individual who marries his/her housekeeper. If the housekeeper’s wife/husband continues to clean the house, GDP decreases, even though the amount of economic activity remains the same.

³⁴Some of the redistribution of time for immigrants relative to natives may be attributable to the need of the former to engage in assimilation-related activities that are costly and take time; Hamermesh and Trejo (2013) explored this issue.

³⁵Strength of family ties is scored based on responses by individuals across 81 countries from the World Value Survey regarding “the role of the family and the love and respect that children are expected to have for their parents.”

ing in market labor, sometimes even making such market participation possible” (Abrams, 2013, p. 21).

Nonmarket activities in the sphere of home production are different from labor that takes place outside the household where immigrants are paid but their compensation is not reported through official channels. Low-skilled immigrants work in a range of sectors where their labor is more likely to be “off the books” and hence untaxed. Occupations for which this may be true (but not always) include house cleaning and babysitting services, home repair, landscaping, and many others.³⁶

As noted by Bohn and Owens (2012), informal sector employment—defined in their analysis as paid work that would have been taxable if it had been reported to the tax authorities—is thought to be large and growing. Bohn and Lofstrom (2013) found self-employed, “likely unauthorized” men to be especially concentrated in a handful of industries and occupations—about 46 percent of this group worked in construction while another 17 percent worked in landscaping.³⁷ Much unreported work, but not all, takes place in “markets” and shows up in GDP. Studies of employment arrangements estimate that over half of the unauthorized immigrants in the United States pay income and payroll taxes through employers withholding from their paychecks or by the immigrants filing tax returns (Congressional Budget Office, 2007).

Some work that takes place informally does so without employment protections, health insurance, Social Security, and other worker benefits. Unregulated work is often connected to immigration through the growth of ethnic economies and because some immigrants lack documentation to work legally in the United States. Across states and over time, there is a relationship between the sizes of informal economies and changing rules and processes for immigrants to attain legal status; enforcement is also a factor. Bernhardt et al. (2009)³⁸ presented evidence from qualitative fieldwork and the 2008 Unregulated Work Survey about how unauthorized status can play out in the workplace and its correlation with higher rates of

³⁶Haskins (2010) reviewed the literature examining reasons why tax evasion is prevalent, using analysis of Internal Revenue Service data plus qualitative interviews with Filipina nannies in the Washington, D.C., area.

³⁷Bohn and Owens (2012) found that states with high concentrations of low-skilled male immigrants have higher levels of informal employment in the landscaping industry. Measuring informal work is difficult and requires case studies and specialized surveys (e.g., the National Day Labor Survey). Bohn and Owens used a residual method to estimate informal work in landscaping and other occupations. For construction, the residual was based on a total employment estimate based on “unofficial data”—for example, based on building permits and other information, minus a count of documented workers captured in an “official” source such as the BLS’s Quarterly Census of Employment and Wages for residential construction.

³⁸See <http://www.nelp.org/content/uploads/2015/03/BrokenLawsReport2009.pdf> [November 2016].

unemployment and labor law violations, including paying below-minimum wages.³⁹ In addition to the potential for worker abuse, injury, and exploitation, another secondary economic effect of informal, unreported work is that employers may prefer immigrants to competing native workers when only the immigrants can be employed under arrangements in which payroll taxes are ignored and labor regulations are not observed.

Even in the context of formal labor markets, there is some evidence that immigrants are more likely to hold jobs characterized by poor working conditions or high risk than are natives. Based on individual-level data from the 2003-2005 American Community Survey and from the BLS, Orrenius and Zavodny (2009) found that foreign-born workers were employed in more dangerous jobs than were U.S.-born workers, “partly due to differences in average characteristics, such as immigrants’ lower English-language ability and educational attainment” (Orrenius and Zavodny, 2009, p. 535).

Informal work arrangements also carry fiscal implications when wages are not taxed or if the amount of wages taxed is smaller than it should be. A study of Los Angeles County by Flaming et al. (2005) indicated the substantial role of informal workers in the local economy: 679,000 in 2004, or roughly 15 percent of the county’s labor force. The report estimated that the informal economy in Los Angeles County generated an \$8.1 billion payroll in 2004, which translated into a \$1 billion reduction in Social Security taxes that would have been paid by employers and workers if it were formal work.⁴⁰ Flaming et al. (2005) estimated that Medicare taxes paid by employers and workers were reduced by \$236 million for that year; California State Disability Insurance payments paid by workers were reduced by \$96 million; unemployment insurance payments paid by employers were reduced by \$220 million; and Workers Compensation Insurance payments paid by employers were reduced by \$513 million. These estimates illustrate that, since wage transactions in the informal sector are not always taxed, the fiscal impact is negative (relative to equivalent taxed work). Although not all informal work is performed by unauthorized immigrants, and a minority of unauthorized immigrants are engaged in off-the-books employment, legalization of unauthorized immigrants would likely result in a reduction of untaxed labor in the informal market.

The overall impact of the informal economy on jobs, production, tax-paying status, and fiscal consequences is not a thoroughly studied topic.

³⁹Surveying unauthorized workers and hard-to-sample groups (where there is no sampling frame) often requires innovative methods such as respondent-driven sampling, which also means the data are not necessarily representative.

⁴⁰A considerable amount of money—estimated to be in billions of dollars—is also paid into the Social Security system that is associated with faulty Social Security numbers or Individual Taxpayer Identification Numbers. A rapid growth in the Social Security Earning Suspense File affects Social Security Trust Fund balances and, in turn, program costs and fiscal projections.

However it does appear that state-level immigration laws can play a role in pushing people off the books. Bohn and Lofstrom (2013) addressed the employment effects of state legislation on employment outcomes of low-skilled, unauthorized workers. Analyzing the impact of the 2007 Legal Arizona Workers Act—which allows the state to suspend or revoke the business licenses of employers found to have knowingly hired unauthorized workers—they found a lower probability of wage and salary employment and a higher rate of self-employment among this group. The size of the gray/underground economy may have been put on a different course after the September 11, 2001, terrorist attacks with changed laws and enforcement protocols; it is now also more difficult to get Social Security numbers, which, for example, are needed to work in many jobs.

There are many are other nonmarket impacts created by immigration, sometimes negative but often positive. These issues are not dealt with in any detail in this report, but they are covered elsewhere: The impact of immigration on population health, crime (Castañeda et al., 2015; National Academies of Sciences, Engineering, and Medicine, 2015), and subjective well-being of individuals (Polgreen and Simpson, 2011) are just a few examples. Also, *The New Americans* (National Research Council, 1997, pp. 98-99) discussed how immigration contributes to population growth and congestion in destination countries, which places demands on the environment and infrastructure. However, that report also notes that immigration is primarily distributive, since an immigrant is leaving one place (relieving congestion) and moving to another (adding to congestion).

6.7 CONCLUSIONS

The economic impact of immigration extends well beyond the wage and employment interactions reviewed in Chapter 5. With so much focus in the literature on the labor market (and much of this, on the short run), other critical issues—such as the role of immigrants in contributing to aggregate demand, in affecting prices faced by consumers, or as catalysts of long-run economic growth—are sometimes overlooked by researchers and in the policy debates. In fact, by construction, many of the labor market analyses reviewed in Chapter 5 net out the kinds of economic effects that have been discussed in this chapter, many of which are positive, in order to identify direct, short-run wage and employment impacts.

The contributions of immigrants to the labor force reduce the prices of some goods and services, which benefits consumers in a range of sectors including child care, food preparation, house cleaning and repair, and construction. Moreover, new arrivals and their descendants also provide a major source of demand in sectors such as housing, benefiting residential real estate markets. To the extent that immigrants flow disproportionately

to where wages are rising and local labor demand is strongest, they help equalize wage growth geographically, making labor markets more efficient and lowering slack.

Immigration also contributes to the nation's economic growth. Most obviously, immigration supplies workers, which increases GDP and has helped the United States avoid the fate of stagnant economies created by purely demographic forces—in particular, an aging (and, in the case of Japan, a shrinking) workforce. Perhaps even more important than the contribution to labor supply is the infusion by high-skilled immigration of human capital that has boosted the nation's capacity for innovation and technological change. The contribution of immigrants to human and physical capital formation, entrepreneurship, and innovation are essential to long-run sustained economic growth. Innovation carried out by immigrants also has the potential to increase the productivity of natives, very likely raising economic growth per capita. In short, the prospects for long-run economic growth in the United States would be considerably dimmed without the contributions of high-skilled immigrants.

In Part III of this report (Chapters 7 through 10), the panel turns to another key component of immigration that must be considered alongside labor market and other economic impacts in order for policy assessment to be comprehensive: the fiscal impact created by the new arrivals.

6.8 TECHNICAL ANNEX ON MODELS OF ENDOGENOUS GROWTH IN A CLOSED ECONOMY

The basic mechanism through which endogenous growth occurs can be illustrated using human-capital-based models. The perception of human capital or human knowledge as the economy's engine of growth stems from a wide agreement in economics that knowledge is the major force affecting productivity growth and the only reproducible economic asset that is not subject to diminishing returns (paraphrasing Clark, 1923). This thesis can be supported by examining the critical role played by the accumulated stock of past knowledge in transmitting and facilitating the acquisition of new knowledge, which offsets any diminishing returns from investment in the latter. In Lucas (1988), this process operates implicitly because the investor (or productive enterprise) is infinitely lived. In the Becker et al. (1990) dynastic model and in the Ehrlich and Lui (1991) overlapping generations model, knowledge formation occurs through the transfer of knowledge from finitely lived young parents to offspring via the following human capital production function:

$$(1) H_{t+1} = A (H^e + H_t) (h_t)^\alpha$$

where H_t and H_{t+1} measure the human capital acquired by the parent generation (t) and the offspring ($t + 1$), H^e denotes an endowed productive capacity measured in units of human capital; A denotes the technology of knowledge transmission from the parent generation to that of the offspring; and h_t is the share of total productive capacity, $(H^e + H_t)$, or “full income” that young parents devote to promote the acquisition of human capital by their kids. (For simplicity, total productive capacity can be assumed to equal full income if human capital is taken to be the only asset underlying the production of goods and has a neutral effect on the productivity of labor and capital, and thus on the capital/labor ratio.) While the investment share of full income h_t can be subject to diminishing returns (if $\alpha < 1$) with no loss of generality, the stock of new human capital, H_{t+1} , is assumed to be linearly related to old human capital, H_t , consistent with Clark’s assumption that human capital as a productive asset is not subject to diminishing returns. The contribution, h_t , of the parent generation to the acquisition of future knowledge, H_{t+1} , is thus seen as the sine qua non for innovation and technological advance.

The assumed production function illustrates the role of intergenerational spillover effects in achieving the growth of innovative human capital. Absent any link between the generations, human capital would be essentially stagnant. But, by this formulation, whether innovative production capacity can actually grow over time crucially depends on the size of investment in new knowledge capital chosen by generation t . This can be illustrated as follows: if $\alpha = 1$ and the value of h_t is assumed to be a constant fraction of total production capacity h^* that can generate a continuous growth in future production capacity, then by equation (1), the growth evolution equation would be:

$$(2) (H^e + H_{t+1})/(H^e + H_t) = (1 + g_t) = Ab^* + [H^e/(H^e + H_t)]$$

which implies that if t approaches an infinite value, the last term in equation (2) will disappear and the growth rate of full income will be given by the term Ab^* . This term indicates that a steady state of continuous growth in total productive capacity, i.e., $g > 0$ in equation (2), can be attained only if investment in human capital, h^* reaches a threshold level $h^* > 1/A$. By contrast, a value of $h^* \leq 1/A$ can be shown to yield a stagnant equilibrium.⁴¹

The equilibrium steady state of long-term growth, $g^* > 0$, is thus essentially a function of the optimal investment parents choose to make in the human capital of their children, h^* . The conditions that determine this

⁴¹The solution of the difference equation (1) is given by:
 $H^e + H_t = (Ab^*)^t[H(0) + H^e] + [(Ab^*)^t - 1]H^e/(Ab^* - 1)$. Thus, growth can occur if and only if $Ab^* > 1$. If $Ab^* < 0$, e.g., $H^e + H_t = H^e/(1 - Ab^*)$.

level are a function not just of the technology of knowledge production and transfer but also of the altruistic preferences of parents and the relative costs motivating them to choose between quantity and quality of children and their own consumption, as well as the financing constraints limiting their ability to invest.

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PART III

FISCAL IMPACTS

AR2022_501887

Estimating the Fiscal Impacts of Immigration—Conceptual Issues

7.1 INTRODUCTION

In formulating immigration policy, information about the impact of immigration on public finances is crucial. Along with the impact on wages and employment (see Chapters 4 and 5), the per capita impact on taxes and program expenditures is the other factor determining the extent to which immigrants are or will be net economic contributors to the nation. *The New Americans* (National Research Council, 1997, p. 225) identifies two other reasons why estimates of current and long-run fiscal impacts are important to policy: First (as discussed in Section 7.5 below), immigration may create taxpayer inequities across states and local areas; specifically, regions that receive disproportionate shares of immigrants may incur higher short-run fiscal burdens if the new arrivals initially contribute less in revenues than they receive in public services. Second, projections of the consumption of public services and payment of taxes over time are essential in order to predict “the full consequences of admitting additional immigrants into the United States.” This chapter discusses the conceptual issues that arise when estimating the fiscal impacts of immigration, recognizing that it is a complex calculation dependent to a significant degree on what the questions of interest are, how they are framed, and what assumptions are built into the accounting exercise. In so doing, the discussion here provides a foundation for the empirical analyses conducted by the panel and reported on in Chapters 8 and 9.

Understanding of the fiscal consequences of immigration has often been clouded because much of the research is conducted by policy-focused

groups that tailor the assumptions to support one position over another. As described by Vargas-Silva (2013, p. 1), “Most of these organizations have a set agenda in favour or against increased immigration. Unsurprisingly, those organizations with a favourable view of immigration tend to find that immigrants make a positive contribution to public finances, while those campaigning for reduced immigration tend to find the contrary.” The partisan nature of the policy debate notwithstanding, careful estimates based on defensible methodologies are possible. *The New Americans*, a pioneering effort in this respect, included a detailed discussion of methodological considerations that is still highly relevant (National Research Council, 1997). That volume, along with more recent studies, such as Auerbach and Oreopoulos (1999), Dustmann and Frattini (2014), Preston (2013), Rowthorn (2008), Storesletten (2003), and Vargas-Silva (2013), significantly advanced the conceptual framework for thinking about fiscal impacts, making the task much easier now than it was at the time that *The New Americans* was written.¹

The first-order *net fiscal impact* of immigration is the difference between the various tax contributions immigrants make to public finances and the government expenditures on public benefits and services they receive. However, a comprehensive accounting of fiscal impacts is more complicated. Beyond the taxes they pay and the programs they use themselves, the flow of foreign-born also affects the fiscal equation for many natives as well, at least indirectly through labor and capital markets. Because new additions to the workforce may increase or decrease the wages or employment probabilities of the resident population, the impact on income tax revenues from immigrant contributions may be only part of the picture. Revenues generated from natives who have benefited from economic growth and job creation attributable to immigrant innovators or entrepreneurs would also have to be included in a comprehensive evaluation, as would indirect impacts on property, sales, and other taxes and on per capita costs of the provision of public goods.

Additionally, the full fiscal impact attributable to a given immigrant or immigration episode is only realized over many years. As shown in Figure 7-1, albeit with cross-sectional data, the distribution of individuals along the life cycle displays systematically different tax contribution and program expenditure combinations. For example, the child of an immigrant—as with the child of a native-born person—is likely to absorb resources early in life (most notably due to the costs of public education) and therefore is likely

¹Referencing this literature affords the opportunity to shorten the methodological discussion here; however, when reporting the panel’s own fiscal estimates, in Chapters 8 and 9, we document in detail the expenditure and revenue categories used in the estimation, along with the underlying methods, assumptions, and modeling choices.

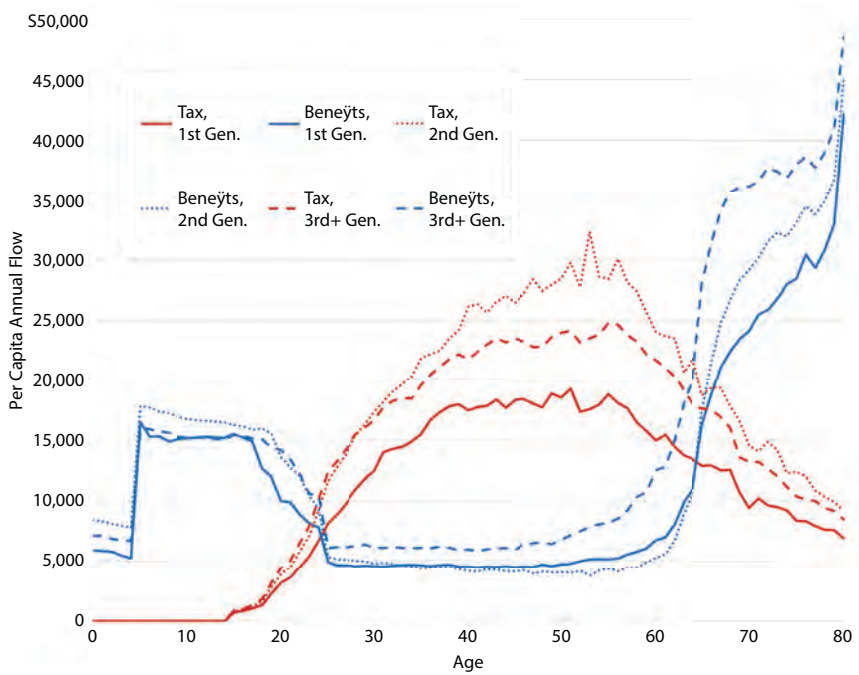


FIGURE 7-1 Age-specific taxes and benefits, by immigrant generation, United States, 2012.

NOTE: All public spending is included in benefits except pure public goods (defense, interest on the debt, subsidies). Data are per capita age schedules based on Current Population Survey data, smoothed and adjusted to National Product and Income Accounts annual totals.

SOURCE: Panel analysis of Current Population Survey data.

to exert a net negative impact on public finances initially. However, later in the life cycle, working and tax-paying adults typically become net contributors to public finances. A full accounting of the fiscal effects of immigration therefore requires information about “the additional or lower taxes paid by native-born households as a consequence of the difference between tax revenues paid and government benefits received by immigrant households over both the short and the long term” (Smith, 2014a, p. 2). Reliable estimates of taxpayer impacts over time are important elements of a thorough economic analysis of the costs and benefits of immigration (Smith, 2014a).

The impact of immigrants on government finances is sensitive to their characteristics, their role in labor and other markets, and the rules regulating accessibility and use of government-financed programs. It is often important to distinguish country of origin and legal status of immigrants, as

groups differentiated by these characteristics experience different outcomes in the labor market and different take-up rates for government services. Inclusion of detailed individual-level characteristics (age, education, etc.) may adequately address these observed fiscal costs and benefit differences across origin countries.² Even so, due to this heterogeneity, it is impossible to reach generalizable conclusions about the fiscal impact of immigration because each country's or state's case is driven by a rich set of contextual factors. Impacts vary over time as laws and economic conditions change (e.g., pre- and post-financial crisis) and by place of destination (e.g., by country, region, and state—each of which has its own policies and population skill and age compositions). It is also important to note that, during periods when fiscal balances for immigrants become increasingly negative, such as during major recessions, they likewise become increasingly negative for natives.

The potential of immigration to alter a country's or state's fiscal path is greatest when the sociodemographic characteristics of arrivals differ distinctly from those of the overall population—and particularly when these characteristics are linked to employment probability and earnings. In the United States, first generation immigrants have historically exhibited lower skills and education and, in turn, income relative to the native-born. Analyses of New Jersey and California for *The New Americans* (National Research Council, 1997, pp. 292-293) concluded that the estimated negative fiscal impacts during the periods 1989-1990 and 1994-1995, respectively, were driven by three factors: (1) immigrant-headed households had more children than native households on average, and so consumed more educational services on a per capita basis; (2) immigrant-headed households were poorer than native households on average, thus making them eligible to receive more state and locally funded income transfers; and (3) due to their lower average incomes, immigrant-headed households paid lower state and local taxes. Recently, though, the share of foreign-born workers in high-skilled occupations has been increasing, partly as a result of the H-1B visa programs initiated in the 1990s. But even after education and other characteristics are accounted for, immigrants' labor market outcomes are often less positive than their native-born counterparts. One explanation is that the skills gap may be exacerbated by underemployment due to downgrading of education and other qualifications, at least for a period after arrival. An interesting question is whether immigration may have some fiscal impact, even if it does not alter the composition of the resident population—that is, if immigrants had the same characteristics as

²In a reassessment of state-level analyses from *The New Americans*, Garvey et al. (2002) found that divergent fiscal impacts, originally attributed to country-of-origin effects, could be explained by different socioeconomic characteristics.

the native-born population. The answer depends in part on the extent to which immigrants assimilate into or out of the welfare state and into or out of the labor market.

Age at arrival is an important determining fiscal factor as well, because of its relation to the three factors identified above. Immigrants arriving while of working age—who pay taxes almost immediately and for whom per capital social expenditures are the lowest—are, on average, net positive contributors. In *The New Americans*' fiscal estimates for the 1990s, a 21-year-old with a high school diploma was found to have a net present value of \$126,000. This value gradually declines with age at arrival; as the projected number of years remaining in the workforce becomes smaller; the figure turned negative for those arriving after their mid-thirties. For immigrants with lower levels of education, the estimated net present value was much smaller initially and turned negative at an earlier age (National Research Council, 1997, pp. 328-330). Immigrants arriving after age 21 also do not themselves add to costs of public education in the receiving country (although, if they have them, their children would). In cases where immigrants are educated in the origin country, the receiving country benefits from the investment without paying for it, creating a distortion in the expenditure estimates.

Relationships between immigrant characteristics and fiscal impact were quantified by Dustmann and Frattini (2014) for the UK case, where immigration patterns have been quite different from the patterns in California and New Jersey during the 1990s and from the U.S. experience in general. Recent history in the United Kingdom has seen the arrival of large numbers of foreign-born individuals near the beginning of their productive working years, *after* completion of their full-time education. When formal education is financed by the countries of origin, a considerable savings—or, perhaps more accurately put, a return on investment made by others—is realized by the receiving countries. Dustmann and Frattini (2014) used an annuity-based quantification strategy that takes into account these “savings” to the destination country, showing how they increase along with the duration of stay in the receiving economy. In the UK case (and unlike the U.S. case), immigrants are on average also more educated than the native-born, although levels of education (absolute and relative) displayed by immigrants have changed over time and differ greatly by country of origin.³

Accounting exercises such as those presented in Chapters 8 and 9 create combined tax and benefit profiles by age and education to decompose the timing and source of fiscal effects. Forward projections build scenarios to

³Dustmann and Frattini (2014) do not differentiate between fiscal contributions of high- and low-skilled immigrants. Thus they do not estimate whether low-skilled immigrants to the United Kingdom have made positive or negative fiscal contributions.

demonstrate alternative assumptions about how changes in outlays—e.g., the use of public education and various programs (Supplemental Security Income; Medicaid; the Special Supplemental Nutrition Program for Women, Infants, and Children; Aid to Families with Dependent Children; etc.)—and revenues change by generation and affect fiscal estimates. As discussed in Section 7.4, methodological approaches have been developed to suit different accounting objectives. For some policy questions, multi-generational costs and benefits attributable to an additional immigrant or to the inflow of a certain number of immigrants may be most relevant; for other questions, the budget implications for a given year associated with the stock, or recent changes in the stock, of the foreign-born residing in a state or nation is most relevant. For example, the latter is often what state legislators are most interested in. Sometimes the question is about absolute fiscal impacts; sometimes it is about the impact of an immigrant *relative* to that for an additional native-born person. Although these approaches require very different kinds of aggregations and calculations, the program (expenditure) and tax (revenue) fiscal components are largely the same.

7.2 SOURCES OF FISCAL COSTS AND BENEFITS

The first task in estimating fiscal impact of immigration, whether at the federal, state, or local level, is to identify the categories of costs and benefits that are affected. Immigrants contribute to fiscal balances through taxes and other payments they make into the system; they create additional fiscal costs when they receive transfer payments (e.g., Social Security benefits) or use publicly funded services (e.g., education or health care). The net fiscal impact that immigrants impart depends on the characteristics that they bring—their mix of skills and education, age distribution and family composition, health status, fertility patterns—and whether their relocation is temporary, permanent, or circular. It also depends on whether they seek employment on the legal labor market and on other conditions prevailing at destination locations, as well as their success in assimilating economically and socially.

In the context of benefit-cost analyses of state-specific immigration policies, Karoly and Perez-Arce (2016) identified channels through which immigration affects fiscal balances (see Table 7-1).

Benefits and costs may accrue to individuals and employers (predominantly through employment and wage impacts—see Chapters 4 and 5) or to the public sector. Among public expenditures associated with an expanding population, be it immigrant- or native-driven, schooling is often the most

TABLE 7-1 Domains and Types of Impacts of Immigration That Affect Fiscal Balances

Domain	Impacts to Address
State Economic Output	Gross state product in aggregate and for specific industries
Labor Market	Employment and wages of subgroups of workers defined by education, race/ethnicity, nativity, or other characteristics
P-12 Education	Use of educational services and education outcomes from preschool to grade 12
Higher Education	Use of public and private higher education institutions, including 2-year colleges and 4-year colleges and universities
Law Enforcement	Allocation of resources across specific types of state and local law enforcement activities
Criminal Justice System	Allocation of resources across specific types of criminal justice system costs (e.g., courts, jails, prisons)
Social Welfare System	Specific cash and in-kind transfer programs (may be affected by availability to unauthorized immigrants)
Population Health and Health Care	Health outcomes (e.g., immunization rates, communicable diseases, low birthweight babies) and health care utilization (public and private costs overall)
State and Local Tax Revenues	Specific sources of state and local tax revenues and tax expenditures (e.g., tax credits)
Other	Costs to implement adopted policies and defend them in the courts

SOURCE: Karoly and Perez-Arce (2016).

significant one for state and local budgets.⁴ In multigenerational analyses where the specified time horizon is sufficiently long to capture future income returns, the cost of education in the current year is best categorized as an investment. In a single-year static analysis, public education for the school age population will appear as an accounting cost; likewise, for the older working-age taxpaying population, the cost of education incurred in previous periods will not be captured as part of the net calculation.

Beyond public education, a large number of other goods, services, and programs generate public costs at various levels of government:⁵ Medicare and Medicaid, Social Security and other protections, housing, prisons and courts, police services, and others—are financed through tax payments by

⁴According to the U.S. Census Bureau’s *State Government Finances Summary: 2013*. See <https://www2.census.gov/govs/state/g13-asfin.pdf> [November 2016] expenditure for education comprised 35.6 percent of all general expenditure by state governments.

⁵These components are itemized in detail for the panel’s federal and state fiscal estimate calculations in Chapters 8 and 9.

immigrants and the native-born. Economic conditions and the demographic profile of the immigrants determine the participation rate of immigrants in various safety net programs. A general finding for the United States has been that immigrants and their children have been less likely to use some programs (e.g., Social Security, Medicare,⁶ cash transfers—though this difference may diminish with length of stay), while others (e.g., bilingual education) are used more intensively. As discussed in Section 7.4, the impact that immigrants have on the cost of providing public goods and services depends on the way their use is attributed.

Ideally, models estimating fiscal impacts of immigration should distinguish between citizens and noncitizens and then, for the latter, authorized and unauthorized individuals. All subgroups make contributions to government finances (pay various kinds of taxes) and consume public services, but the levels differ. Legal status is often central to determining what services immigrants qualify for and tend to use and what taxes they are required to pay. Per capita expenditures on various programs vary by documentation status and are therefore directly affected by policy.⁷ Undocumented individuals may make retirement-related payments (e.g., Social Security, Medicare); some will never benefit while others may receive partial benefits or later become citizens and enjoy full benefits.

Safety net programs are aimed at low-income families, children, and the elderly, but immigrants do not have access identical to the native-born, due to restrictions imposed by law. Unauthorized immigrants and individuals on nonimmigrant visas are not eligible for the Supplemental Nutrition Assistance Program, nonemergency Medicaid, Supplemental Security Income, or Temporary Assistance for Needy Families. The Personal Responsibility and Work Opportunity Reconciliation Act of 1996 and the Illegal Immigration Reform and Immigrant Responsibility Act of 1996 introduced additional restrictions. The former made lawful permanent residents and certain other lawfully residing immigrants ineligible for federal means-tested public benefit programs (such as Medicaid) for the first 5 years after receiving the relevant status. The latter statute included a provision intended to prevent

⁶For example, using Medical Expenditure Panel Survey to determine medical expenses, Zallman et al. (2015) calculated that, from 2000 to 2011, unauthorized immigrants contributed \$2.2 to \$3.8 billion more than they withdrew annually from the Medicare Trust Fund—creating a total surplus of \$35.1 billion. This surplus, just for those 11 years, was estimated to have accounted for 1 additional year in the current projection in which the Medicare program remains solvent through 2030.

⁷A report by the Congressional Budget Office in 2015 titled *How Changes in Immigration Policy Might Affect the Federal Budget* is available at <http://www.cbo.gov/sites/default/files/cbofiles/attachments/49868-Immigration.pdf> [November 2016]. The report lays out how policy change scenarios affecting the status of the currently unauthorized population would affect the federal budget.

states from extending in-state tuition benefits to unauthorized immigrants.⁸ Prior to the enactment of these laws, authorized immigrants had access to public assistance and education benefits that were by and large equal to the access of citizens. U.S.-born children of immigrants remain eligible for all programs because they are citizens.

Borjas (2011) examined poverty and program participation among immigrant children⁹ using 1994-2009 Current Population Survey (CPS) data on cash assistance, Supplemental Nutrition Assistance Program benefits, and Medicaid received by households. The study divided children into four groups: (a) those who have one immigrant parent (mixed parentage); (b) U.S.-born children who have two immigrant parents; (c) foreign-born children who have two immigrant parents; and (d) U.S.-born children with U.S.-born parents. The analysis revealed that, even though poverty rates¹⁰ decreased for children with two immigrant parents between 1996 and 2000, they have risen since 2007. Among the four groups of children, the poverty rate is highest for foreign-born children with two immigrant parents. Children of mixed parentage exhibit poverty rates that are not significantly different from those of children of native-born parents. Similar conclusions can be drawn from the figures on program participation rates. U.S.-born children with two immigrant parents have the highest program participation rates among the four groups, which is not a surprising outcome as their parents are likely to have lower income and, since they are native-born, they are eligible for various safety net programs.

It is more difficult to estimate expenditure levels for unauthorized immigrants, which adds an element of uncertainty to forward projections. Even the microdata sources from national surveys do not contain enough detail or population coverage to make these distinctions accurately for all programs, and assumptions must be embedded in the estimates about numbers of unauthorized citizens and about their impact on program usage.

7.3 STATIC AND DYNAMIC ACCOUNTING APPROACHES

New immigrants affect governments' fiscal balances almost immediately upon arrival—by paying sales, income, and other kinds of taxes and

⁸According to the National Conference on State Legislatures, 18 states have passed legislation since 2001 extending in-state tuition rates to undocumented students who meet a set of requirements. One state, Wisconsin, revoked its law in 2011. See <http://www.ncsl.org/research/education/undocumented-student-tuition-overview.aspx> [November 2016].

⁹Borjas (2011) defined immigrant children as those who are foreign born and migrate to the United States with their foreign-born parents and those who are U.S. born to one or two immigrant (foreign-born) parents.

¹⁰The poverty rate is defined as the fraction of children in a particular group that is being raised in households where family income is below the official poverty threshold.

by using schools and other services. Impacts compound subsequently, over extended time horizons. State legislators or local school districts may be most concerned about the extent to which immigrants affect current and near-term budgets. Others—policy makers concerned with the long-term solvency of a government program or with multiyear budget projections or a researcher studying long-run economic growth—may be more interested in life-cycle impacts that take place over many decades. The appropriate analytic framework, each requiring specific kinds of data and entailing specific sets of assumptions, is dictated by the temporal concept most relevant to the question at hand. Additionally, while many analyses have attempted to estimate the fiscal impact of all foreign-born individuals or immigrant-headed households currently in the population, it is often more relevant for policy debates to estimate the net impact of new immigrants, since the rate and composition of new arrivals is presumably what policy will affect. It is conceptually muddled to bundle the impact of immigrants who arrived in different historical periods, who may be very different in terms of the way that they have been integrated into society and the economy.

The two basic accounting approaches to estimating fiscal impacts, one static and the other dynamic, capture distinct but connected aspects of immigration processes. The static accounting approach is conducted for a specific time frame, often a tax year, in which contributions by immigrants to public finances—in the form of taxes generated directly by them or indirectly by others (in practice, most analyses are limited to the former)—are compared with expenditures on benefits and services supplied to that population. Such an approach might be used, for example, to answer questions such as, “in California, how much did the foreign-born and their dependents add to tax revenues, and how much did they cost in terms of government expenditures last year?” And, “how much did the grown children of immigrants (and their dependents) add in tax revenue and cost in terms of expenditures last year?” Dynamic accounting approaches, in contrast, compound costs and benefits over extended time periods. This is done by computing the net present value of tax contributions and government expenditures attributable to immigrants—and in some analyses, their descendants—projected over their life cycles. Dynamic analyses involve modeling the impact of an additional immigrant on future public budgets and are useful for addressing questions such as, “over the next 50 years, what will be the impact on fiscal balances if x immigrants with a given set of characteristics y enter the country?” In both static and dynamic estimates, difference between immigrants and natives tend to be much larger on the tax revenue side than on the benefits cost side, though the second generation catches up quickly and eventually pays as much or more than the native-born population in general (National Research Council, 1997, p. 314). The earnings and tax profiles for the third generation are more or less the same as for the native population over all.

A static analysis may cover a single year or be repeated for cohorts across a number of years. To a large extent, results are driven by the composition of immigrants in terms of age, education, and other factors, relative to that of the native-born.¹¹ As described by Preston (2013) and Dustmann and Frattini (2014), immigration can affect static estimates of the public budget constraint in a range of ways because, on average, they pay taxes and consume public services differently from the population as a whole, alter the taxes paid or services consumed by the native-born, and may affect the cost of providing services to natives. A single-year static model may provide a reasonably accurate basis for future projections in a steady state with stable immigrant rates and characteristics. However, historically, this steady-state assumption has not been met because generations of immigrants differ greatly in place of origin, age, skills, education, and other relevant characteristics. Thus, if a static calculation examines the impact of all foreign-born, it will combine people with highly varying characteristics, giving an “inaccurate picture of the impact of any particular generation of immigrants” (National Research Council, 1997, p. 297).

Dustmann and Frattini (2014) used a repeated cross-sectional approach to estimate the net fiscal contribution over the period 2001–2011 for immigrants who arrived in the United Kingdom after 2000. This kind of analysis answers the question “What has been the net fiscal contribution of immigrants who arrived in a country after a given point in time?” (Dustmann and Frattini, 2014, p. 598). Because the analysis is retrospective, data on actual tax payments and public expenditures can be used to estimate the fiscal impact of a cohort of individuals from the start of residency onward to the present in a way that minimizes dependency on underlying assumptions. The analysis does not require projecting income levels, educational costs, or government budgets in future years for which data do not yet exist.

Kaczmarczyk (2013) summarized these advantages of the static approach:

- Conceptual simplicity—it is relatively straightforward to explain the results of the static approach, as they are observed flows of revenues and costs associated with immigrant-driven expansion of the population.
- Use of historical data—no detailed population projection data are needed.

¹¹See *The New Americans* (National Research Council, 1997, pp. 257–263) for a formal description of the steps involved for a static annual fiscal impact analysis. See Dustmann and Frattini (2014) for a detailed description of the repeated cross-sectional approach, and see Chapter 8 for details of the analyses used for this report.

- Eased reliance on assumptions—there is no need to impose strict assumptions about future trends of immigrant and native populations (e.g., size and education, age composition) and about government (e.g., fiscal balance or change in immigration policies).

Among the disadvantages, he lists the following:

- Results lack a forward-looking perspective, which is often critical for informing policy.
- Static analysis has less capacity to assess the long-term consequences of recent migration—for instance, to project how immigrants will use services or pay taxes over their lifetimes, consequences that are particularly important when the immigrants’ demographic profiles differ significantly from those of the native population.
- It is difficult to incorporate fiscal impacts of a proposed change in immigration policy unless the annual snapshots are repeated indefinitely, in which case the information will still be retrospective.

In contrast to static fiscal impact estimates, dynamic analyses are designed to project future contributions to public finances and costs of public benefits programs. Such models attempt to account for: (1) future population growth, including the components driven by natural increase and by net migration; (2) projected changes in employment and wage profiles; and (3) government spending and tax rates. Immigrants can affect public finances by changing the age, skills, or other elements of the composition of the population. Assumptions are required about the rate at which immigrant earnings converge with native counterparts for various age/education cells after arrival (see Chapter 3 for evidence on this) and about future fiscal balances (see discussion below in this section).

Using a dynamic intergenerational approach based on mid-1990s data for the United States, *The New Americans* estimated that the net present value of the lifetime fiscal impact (combined federal, state, local) was $-\$13,000$ for an immigrant with less than a high school education, $+\$51,000$ for an immigrant with a high school education; and $+\$198,000$ for an immigrant with more than a high school education (National Research Council, 1997, p. 350). Lee and Miller (2000), updating *The New Americans* and using a similar methodology, showed that the initial fiscal impact of most immigrants (and their households) is negative as a result of low earnings upon arrival and the costs associated with schooling of their children. After about 16 years, the impact of a “representative” immigrant turns and remains positive. The dynamic approach is designed to capture these full life-cycle impacts; by contrast, results from the static approach

will reflect the fiscal impact at a moment in time of the entire distribution of foreign-born of different ages and arrival dates.¹²

An attractive feature of dynamic fiscal projections is that their structure allows the effects of proposed or current policies to be simulated. Different scenarios can be run, for example, to project the impact of a rule change allowing the wages of unauthorized workers to be reinstated on their record of earnings upon obtaining a valid Social Security Number, or the generational consequences of cutting Social Security benefits versus raising payroll taxes. Fiscal impacts of visa policy changes that may affect the age and skill mix in the stock of foreign-born and the population as a whole can also be projected.¹³ The mix of visas—working, student, family reunion, seeking asylum—under which immigrants enter will affect both the employment and taxes generated from immigrants and the benefits used. Immigrants entering the country on work visas can reasonably be expected to have more favorable labor market outcomes than those arriving for family or humanitarian reasons. Those entering with work and student visas also have limited access to benefits such as social housing and unemployment compensation and are more likely to generate tax revenues in current and future periods. Ideally, data would allow the flow of the foreign-born population to be decomposed by entry category, since any projected changes in the distribution by these categories would be expected to have a direct impact on fiscal outcomes.

Dynamic analyses vary in terms of how and if various mechanisms through which immigration can impact the economy and the subsequent fiscal picture are incorporated. *The New Americans* (National Research Council, 1997) and Lee and Miller (2000) developed “partial equilibrium” analyses in the sense that they only estimate direct fiscal effects attributable to immigrants themselves. They do not take into account indirect (general equilibrium) impacts of immigration on wages, or on labor force participation and occupational choices of the pre-existing population—mainly because these factors are very difficult to estimate credibly. Over time, the reshaping of the labor force, the expansion of capital stock, and any impact

¹²Figure 7-1 illustrates the fiscal profile by age for a static, cross-sectional analysis of the United States based on 2012 data.

¹³Sometimes, past policies can also be examined to inform possible impacts. Hansen et al. (2015) forecasted the impact of immigration on public finances for Denmark by taking advantage of the natural experiment that occurred there around the year 2000 as a result of shifting from a heavily family reunification-based policy to a skills and employment-based policy. Over the period immediately after the policy shift, from 2000 to 2008, the unemployment gap between native-born in Denmark and immigrants narrowed and public finances improved. More generous social safety net benefits in Denmark were also shown to lead to more negative fiscal impact than in the United Kingdom for low-skilled immigrants (Dustmann and Frattini, 2014).

on productivity and economic growth brought on by immigration will affect public finances through conduits such as corporate taxes and taxes paid by natives. Therefore, assumptions about central growth rates must also be made (see Section 6.5) for general equilibrium analyses. Immigration also produces other indirect effects, such as on housing ownership and rental markets which, in principle, could be integrated into dynamic fiscal models. Also, behavioral responses—such as when an influx of cheap child care or housekeeping service workers changes the labor supply decisions by native workers—can also be studied.¹⁴

Likewise, static analyses—particularly for a single year—are, by their very structure, partial equilibrium analyses; future periods must be considered in order to incorporate most secondary or indirect effects. Hansen et al. (2015) included general equilibrium effects in their dynamic projection using population register data on both first- and second-generation immigrants. Their model “estimates long term economic activities and sustainability of economic policy” on the basis of submodules projecting the population (incorporating fertility rates, mortality rates, and inward and outward migration); future age-, gender-, and origin-specific education levels of that population; and future proportions of the population within and outside the labor force (Hansen et al., 2015, p. 8).

Storesletten (2003) analyzed the United States using a general equilibrium approach, in the sense that labor supply and payments to the factors of production were treated as endogenous in his model, which was specified to incorporate differential impact of immigrants by age, employment status (working or not), and skill level. In such analyses, variation in the fiscal impact of immigration is dictated less by the size of the immigrant population than by its composition. Chojnicki et al. (2011) used a general equilibrium model to analyze the impact of immigration on social expenditure and the public budget in the United States for the period 1945-2000. They found that immigration had a large positive impact on public finances, relative to a no-immigration scenario, during that period—mainly due to immigrants’ younger age structure and higher fertility rates relative to the total population. These demographic effects reduced transfer payments by lowering the old-age dependency ratios (see Chapter 2).

To summarize the preceding discussion, among the advantages of dynamic fiscal estimation models are the following (Kaczmarczyk, 2013):

- A forward-looking perspective providing a projection of the fiscal impacts of immigration in a life-cycle framework that captures net positive expenditures for younger and older individuals on educa-

¹⁴This topic is discussed in Chapter 6.

- tion and health care and net positive revenues during working years when tax payments are highest; and
- capacity to assess the impact of immigration on structural changes resulting from population aging (e.g. pension system and its sustainability).

Among the disadvantages of the dynamic accounting approach (or, really, any analytic attempt to estimate future consequences) are the following:

- Outcomes depend strongly on the set of assumptions made about future trends in income and population growth (which depends on projections of fertility rates, life expectancies, and return migration rates), worker productivity, labor market participation rates for immigrants and natives, and government-established tax rates and program spending levels; and
- within the generational accounting framework, huge degrees of uncertainty are introduced due to unknown future deficit and debt profiles. In addition, as noted in *The New Americans* (National Research Council, 1997, p. 256), “dynamic fiscal accounting requires specification of a social rate of discount, so that future tax revenues and spending needs can be compared in terms of current dollars.”

The literature has identified a range of policy-relevant questions for which fiscal impact studies are required: For example, what is the marginal impact of an incremental increase in immigration (i.e., the impact of one additional immigrant); the per capita impact of an increased rate of immigration; the future impact of an immigrant cohort with a given demographic profile; the impact of an additional 100,000 immigrants over current levels; or the consequences of changing numbers or types of visas/entries (e.g., skill based instead of family centric)? Or, alternatively, what has been the net fiscal contribution of the foreign-born who arrived in a country after a given point in time; and how have the net impacts varied by level of government? Defining the question or scenario of interest is clearly the prerequisite to selecting an appropriate modeling framework.

7.4 SOURCES OF UNCERTAINTY: ASSUMPTIONS AND SCENARIO CHOICES IN FISCAL ESTIMATES

Estimating fiscal impacts is data intensive and methodologically complex. Even if accurate microdata were available on the characteristics, taxes paid, and program usage for all immigrants and natives, decisions must still be reached about how to treat various kinds of costs and benefits and—in the case of dynamic projections—the uncertainty of future economic and

policy trends. When data are lacking, or when projections into the future are required, assumptions must be made about program participation rates and policy changes. Dynamic projections rely more heavily on assumptions than do static models but, as identified below, modeling choices are required in any fiscal analysis.

Unit of Analysis: Individuals Versus Households

A preliminary step in all fiscal analyses is to select the unit of analysis. A decision must be made whether tax payments and expenditures based on program use will be estimated for households as a unit or for each individual. Ideally, this decision would be dictated conceptually by the budget item that is being apportioned. For instance, health and education expenditures accrue for individuals while some taxes and benefits, including most cash-transfer programs, are based on household characteristics. Data realities sometimes prevent the unit of analysis choice from matching the ideal.

For dynamic analyses, the household unit of analysis is problematic because families' living arrangements change over time through marriage, divorce, the departure of grown children, the arrival of additional family members from abroad, return migrations to the country of origin, and deaths. Dynamic fiscal accounting based on households becomes exceedingly difficult "as (often arbitrary) forecasts of family dissolution and formation become necessary" (National Research Council, 1997, p. 255). Further complicating the situation is the increasing prevalence of nonimmigrants in immigrant-headed households, and vice versa. Because households are not stable over time and because the costs and benefits originating in mixed households often need to be divided between native-born and foreign-born members—as opposed to having to ascribe them exclusively to one group or the other—the individual unit of analysis is more flexible and empirically feasible for dynamic analyses. Perhaps for these reasons, this was the approach taken in the dynamic projections in *The New Americans* (National Research Council, 1997).

For cross-sectional analyses, the choice of unit of analysis is somewhat more difficult. Although the individual is used for the baseline scenario in its dynamic analyses, *The New Americans* (National Research Council, 1997, pp. 255-256) states, "Since the household is the primary unit through which public services are consumed and taxes paid, it is the most appropriate unit as a general rule and is recommended for static analysis." While this logic is sound, a case can also be made for again selecting the individual as the primary unit. Aside from the value of being consistent with the method used for the dynamic analysis, there is, even at a point in time, the issue of how to define an immigrant household: by head of household, by requiring both parents in a two-parent household to be foreign born,

etc. Assigning the public cost of children to parents as individuals allows the costs to be attributed to multiple immigrant generations when called for by the situation (e.g., cases in which households consist of one first generation adult and one native-born adult). Moreover, the static analysis in this report extends beyond that used in *The New Americans* by repeating the cross-sectional estimates over 20 years, a period more than long enough to see household composition change.

Accounting for the Second Generation

The treatment of native-born individuals with foreign-born parents is an issue in both static and dynamic approaches.¹⁵ In forward-looking projections, the logic for including second generation effects is straightforward: Even if children of immigrants are native-born citizens, they generate costs and benefits to the receiving country directly as a result of their parent(s) having entered the population. Children of immigrants, whether born in the origin or destination country, consume public education services while they are of school age, and they may be expected to contribute to the net fiscal balance in a positive way by paying taxes later in their lives. In a cross-sectional analysis, this life-cycle effect will be driven by current demographic composition. It will be captured only to the extent that data are detailed enough to reveal the grown children of immigrants who have graduated into tax-paying adults at a point in time. Most of the flagship population data sources in the United States, including the Decennial Census (after 1970) and the American Community Survey (ACS), which replaced the Decennial Census long form, do not identify second generation respondents.¹⁶ Fortunately, information on parental birthplace has been available since 1994 from the CPS, and these data are used in the state and local level analysis in Chapter 9 and at various points in the national analysis in Chapter 8.¹⁷

¹⁵Beyond the conceptual question, as discussed below, capturing the relevant population is complicated by lack of data in most Census Bureau datasets on parental place of birth. This makes identification of second generation individuals difficult once they have left the immigrant-headed household.

¹⁶See Massey (2010) on analytic limitations created by the absence of data on parents' birthplaces in the Decennial Census and the ACS. As just one example among many, the ability to identify second generation respondents is necessary for estimating tax revenues contributed by the children of immigrants after leaving the education system (and leaving immigrant-headed households) and entering the labor market. If not accounted for, this biases estimates of the net fiscal contributions of immigrants in a negative direction.

¹⁷As noted by Massey (2010), relative to the ACS, the sample size of the CPS is quite small, which means that the Census Bureau data sources only yield stable estimates for large immigrant groups and highly aggregated geographic areas (e.g., large-population states and at the national level).

Dynamic cohort analyses attempt to capture second and later generation effects but must make assumptions about return immigration rates and economic assimilation that affect future employment and earnings profiles.¹⁸ For intergenerational projections, assumptions must be made not only about the future flow of immigrants into the country but also about the education and skills that they will bring or will acquire upon arrival. Predicted tax payments and benefit expenditures will differ dramatically for a high-education versus a low-education scenario. For immigrants that arrive after age 25, it is generally assumed that they will maintain the education level observed on arrival, so no further predictions about their education have to be made. For immigrants arriving at younger ages, their future final educational attainment is typically predicted as a function of parental education. And, when estimating the marginal cost of immigrants to education budgets, the children of immigrants are typically included, independent of birthplace. In the research used as an input to the fiscal projections in *The New Americans*, Lee and Miller (1997) found that including projected lifetime impacts of children of immigrants into the analysis provided a strongly positive fiscal contribution regardless of their parents' educational attainment. That said, the initial estimates of fiscal contribution for immigrants themselves (prior to factoring in second generation effects) were highly dependent on educational attainment. Immigrants with education beyond high school were projected to add positively to net present value while those with lower levels of education caused a net fiscal loss. Similarly, Storesletten (2003) found the net cost to society of immigrants to be highly variable, with the difference between amount paid in taxes and amount of public goods and services used over the life cycle ranging from a \$36,000 cost to a \$96,000 benefit, depending on the individual's education level.

As noted above, choices must also be made about how to handle the increasingly common cases of children of mixed (one native-born, one foreign-born) couples. The literature includes analyses in which the children are put in one group or the other and analyses in which they are split between the two groups. *The New Americans* assigned native-born children of native/foreign-born couples by the birth status of household head (National Research Council, 1997). Dustmann and Frattini (2014) considered children of mixed couples as half natives and half immigrants and allocated the costs accordingly. As will be seen in Chapters 8 and 9, how the children of immigrant-headed households are treated can have a large impact on fiscal estimates; details about how second generation individuals are handled in the national and state and local level estimates are provided in those chapters.

¹⁸The role of educational attainment assumptions for the second generation is discussed by Blau et al. (2013).

Stay and Return Rates of Immigrants

Population projections underlying dynamic fiscal projections must incorporate estimates of survivorship, fertility rates, and net in-migration. Since not all foreign-born individuals who come to the United States stay long term, return migration must also be taken into account. Immigrant return rates and length-of-stay patterns affect the population demographics and, in turn, a receiving country's fiscal picture. A student may return home after completing a degree. A person entering on a work visa may do the same after completing a job. Historically, circular migration has occurred as well, especially for people who worked seasonally in the United States, many of whom were unauthorized.¹⁹ When foreign-born individuals move to a country to work but then return home, they are less likely to ultimately tap into expensive late-life benefits such as Social Security and publicly funded medical care. Yet they may enroll in pension systems and begin contributing income and payroll taxes immediately. If immigrants are temporary and do not claim pensions or other post-retirement benefits from the destination country, their net fiscal contribution is likely to be very positive. In contrast, immigrants who stay will typically create system costs later in life.

Circular and return migration patterns, and assumptions about them, are especially important for forward-looking, dynamic fiscal estimates. Most obviously, for the foreign-born who return or circulate out, the second generation impacts are not in play, unless they have U.S.-born children who stay or eventually return. Therefore, assuming that all foreign-born individuals who appear in the data will stay until death can lead to large errors in fiscal (and economic) impact studies. The population projections underlying the dynamic model in Chapter 8 assume that children of immigrants ages 0-19, whose parents emigrate, leave with them, even if they are U.S. born. Largely following the Census Bureau methodology, immigrants are assumed to have a much higher risk of emigration during the first 10 years after arrival in the United States. Fiscal projections will be affected especially if the characteristics—for example, age, skill, earnings—of out-migrants are systematically different from averages for all foreign-born individuals such that selection effects come into play.

Conceptually, then, the ideal fiscal analysis would factor in return rates and separately track the characteristics of permanent and temporary immigrants. Data constraints typically make this impossible, so assumptions are made based on partial information. The baseline scenario in the dynamic models developed for *The New Americans* was that 30 percent of

¹⁹Massey et al. (2015) argued that return and circular migration among undocumented immigrants (primarily from Mexico) has dropped sharply in response to the massive increases in border enforcement of the past two to three decades.

immigrants later emigrate, taking with them all their young children; 16 percent of those born in the second generation were assumed to emigrate with their parents. Such assumptions about return migration affect only the projected numbers of immigrants in the country; secondary effects in the labor market and in earnings profiles reflecting different characteristics and self-selection patterns among stayers and leavers (which, historically, is the norm) are not captured.

Storesletten's (2003) intergenerational model incorporates estimates of out-migration rates and post-migration take-up rates of social benefits to demonstrate how fiscal contributions are affected in different scenarios. One notable finding for the United States was that return migration of high-skilled immigrants under age 50—quite common during the first few years after arrival—decreases their time-discounted fiscal contributions. Kirdar (2012), studying the German pension and unemployment insurance systems, found that building immigrant return decisions into his model as an endogenous choice increased the net expected gain to the destination country's finances. (Storesletten did not address selection effects differentiating career paths of temporary versus permanent immigrants.) This is explained by the observation that those most likely to be beneficiaries later on—low income immigrants—are also the ones most likely to return first due to inferior labor market outcomes. A summary report by OECD (2013) on the fiscal impact of immigration also found important differences for most developed countries in the tax contribution and benefit use patterns of native-born populations, permanent immigrants, and temporary immigrants.

Indirect/Secondary Fiscal Impacts

Most intergenerational fiscal projections are limited by a partial equilibrium perspective. That is, they focus on first-order tax revenue and program spending effects—those discussed above—while assuming that no market or behavioral changes take place in response to new immigrants. Labor market displacement or enhancement, capital adjustments, housing price pressures, etc., are not factored in. The same is true for the static approaches described above where, for example, any labor market displacement of natives—and in turn the impact on the tax contributions they make and public services they use—have been largely ignored.

Second-order market effects do clearly occur, and several studies noted above attempt to account for some of them. As discussed in Chapter 6, immigration-induced expansion of the population can increase housing prices and rents; low-skilled migrants willing to work in house-cleaning or child or elder care services enable native workers, particularly high-skilled

women, to supply more labor to the market, which affects tax contributions. In a comprehensive analysis, these ripple effects in the economy would be accounted for; however, due to the complexity of operationalizing a general equilibrium approach into the accounting framework, they typically are omitted. The fiscal impacts literature has generally concluded that these kinds of impacts are minor relative to overall economic activity. However, even if *overall* (nationwide) labor market effects of immigration are likely to be small, whether the direction is positive or negative, the impact may be large in specific geographic areas or types of markets.

Karoly and Perez-Arce (2016) provided a policy-relevant example of main and secondary impacts, using college tuition as the case study. Table 7-2 itemizes the direct and secondary economic and fiscal effects that she found associated with a policy granting in-state tuition benefits to undocumented immigrants. Such a policy may incentivize foreign-born individuals to come to the United States (or to a particular state) to take advantage of the benefit—a direct cost, but it may also create more high-skilled workers who, at least in time, would raise wages and in turn tax revenues, improving the fiscal picture.

TABLE 7-2 Multiple Impacts of Granting Eligibility to Undocumented Immigrants for In-State Tuition

Potential Main Impact	Potential Secondary Impacts
Increased Number of Unauthorized Immigrants	Decreased wages of unskilled workers Increased economic output/decreased price of some services Increased tax revenue and increased government expenditures
Increased Educational Attainment of Unauthorized Immigrants	Effects through changes in individual human capital: <ul style="list-style-type: none">Increased earnings for unauthorized immigrants If demand for subsidies exceeds supply: <ul style="list-style-type: none">Decreased subsidized enrollments by other groups (legal immigrants, nonimmigrants) If net increase in subsidized enrollments: <ul style="list-style-type: none">Increased government expenditures for higher education subsidies If net increase in college-educated versus noncollege-educated population and labor supply: <ul style="list-style-type: none">Increased wages of low-skilled workersIncreased economic outputIncreased tax revenue and decreased government expenditures

SOURCE: Karoly and Perez-Arce (2016).

Allocating Costs of Government-Provided Goods and Services

Both static and dynamic fiscal analyses must make assumptions about how to allocate government spending among newly arrived immigrants (authorized and not), established foreign-born residents, and the native-born. To do this, it is necessary to consider how broadly and intensively immigrants use public services and transfer benefits. Take-up rates by the foreign-born for various programs, described in Chapter 3, become important parameters in fiscal estimates. The models in Chapters 8 and 9 necessarily include such parameters for assigning costs. A default assumption might be that immigrants' use-rate is equal to that for the population, so that they account for the same per capita consumption of public services as do natives. If possible (that is, if data exist), it is preferable to consider to use patterns of the many government-provided goods and services on a case-by-case basis, as the nature of their consumption is highly variable. Differences in the characteristics of immigrants and native-born individuals also come into play. Obvious examples for which use patterns vary for different groups are English as a second language (ESL) classes taught in schools or translation services offered in hospitals. Since these services are used disproportionately by immigrants, it may make sense to attribute a higher average cost to recent arrivals than to established foreign-born or native-born individuals.

For some services, such as education and health care, data may reveal that the total cost of provision is roughly proportional to the number of recipients. This argues for assigning costs on a pro rata, or per capita average cost, basis in the accounting exercise (Dustmann and Frattini, 2013). In other cases, the marginal cost of provision may differ significantly from the average cost. Publicly provided goods that depend only partly on the size and composition of the population, such as public infrastructure, public administration, and police forces are examples. In the case of "congestible public goods," the marginal costs of additional population (immigrant or native) may be higher or lower than average cost but is greater than zero. Such might be the case if a district's schools were operating at or above capacity and an influx of immigrants created the need to build new schools and hire additional teachers. Proper accounting of congestible goods requires information—or lacking appropriate data, assumptions—about how the provision and consumption of goods and services change with the share of immigrants in the population.²⁰ Most studies attribute the costs of these kinds of goods equally across the whole population—that is, propor-

²⁰For computational feasibility, analyses frequently assume that the quality and level of services are fixed. Thus, with a flow of immigrants added to the population, total costs must increase to maintain that quality level for most goods and services. Income transfers, for example, are more like private goods, and per-person spending must be maintained if service levels for all are to be held constant (National Research Council, 1997, p. 256).

tional to the number of recipients (Rowthorn, 2008). Whether or not there is resource strain and congestion—with resulting impacts on the sustainability of public services or population welfare programs—relates closely to the way the marginal analysis is framed. Congestion may be irrelevant when considering the current fiscal year impact for school or infrastructure budgets created by an additional immigrant. In contrast, congestion is a central concern when considering long-term costs associated with a growing population. Similarly, the marginal cost calculus will be quite different when considering the marginal addition of one immigrant at a point in time versus the addition of many thousand immigrants over a period of time.

“Pure” public goods—goods defined by the trait that their value and availability is not diminished by additional users—also enter fiscal estimates. Such goods, at least within a range, are unaffected by population size. National defense, which accounts for about 18 percent of the U.S. federal budget, is a classic example. The marginal increase in these costs due to immigration is, at least in the short run, zero or close to it. Other candidates to be treated as pure public goods include government administration and interest on the national debt. Dustmann and Frattini (2014, p. 7) contrast pure versus congestible public goods:

‘Pure’ public goods and services are not rivals in consumption and the marginal cost of providing them to immigrants is likely to be zero. For example, the expenditure for defence or for running executive and legislative organs is largely independent of population size. ‘Congestible’ public goods and services are—at least to some extent—rival in consumption, so the marginal cost of providing them is unknown, although probably smaller than the average cost and positive. For example, the cost of fire protection services, waste management and water supply may indeed increase with the size of the resident population. . . . The ideal—if data were limitless—would be to measure the marginal cost of providing each public good and assign it to every new immigrant.

In the case of pure public goods, immigration has the beneficial effect of allowing fixed program costs to be spread over a greater number of taxpayers—thereby lowering per capita costs for the population in general (Loeffelholz et al., 2004). In fiscal accounting exercises, this savings would therefore enter as a reduction in the per capita tax burden imposed on current native residents (and established, taxpaying immigrants). One could challenge this treatment for very long run analyses by arguing that, over time, public goods such as defense spending have been correlated with gross domestic product (GDP) and population size.

The fiscal analyses in Chapter 8 present alternative scenarios, allocating the costs of pure public goods to natives only in one subset and to everyone

in another (that is, spreading the costs equally across the entire population, including the arriving foreign-born). To understand this assumption, it is useful to consider types of expenditure that are the opposite of pure public goods—for example, an ESL program. To a first approximation, there would be no costly ESL programs if not for the arrival of new immigrants. This suggests that one should ascribe the program's cost to them alone. Putting aside economies of scale in providing such programs, an additional immigrant increases the total cost of providing ESL education. By the same logic, the arrival of an additional immigrant does not change in any meaningful way the cost of defending the country; in fact, as pointed out above, it lowers the per capita cost of a given amount of defense (as the numbers of aircraft carriers, etc., remain the same) as long as the immigrants contribute something, even if it is below average, to the overall size of the tax base. For analyses estimating the fiscal impact of other kinds of immigration scenarios—for example, for large numbers of arrivals taking place over a multiyear period—the zero marginal cost assumption becomes less tenable.

Since public good items such as national defense represent a large part of the federal budget, the difference between allocating expenditures on them pro rata or at a zero marginal cost will have a very large impact on fiscal estimates. In fact, such assumptions are likely to swamp the impact of most of the other assumptions and data issues that arise in fiscal impact analyses.

In the Dustmann and Frattini (2014) analysis of UK fiscal balances for the period 2001-2011, the total net contribution of all immigrants ranged from -£76 billion (2011 prices) under the average cost scenario (public goods costs are assigned to immigrants pro rata) to +£27 billion under the marginal cost (public goods costs are assigned to natives only) scenario. These are large numbers in absolute terms but, relative to the size of the overall economy, still fairly modest: -0.7 percent and +0.3 percent of UK GDP respectively. The fiscal analysis in *The New Americans* showed similarly contrasting estimates made under marginal versus average cost assumptions, albeit for a forward-looking projection:

If all the expenditures we categorize as provision of public goods (military expenditures are the leading case) were instead treated as private or congestible goods, so that a per capita cost is allocated to immigrants and their descendants, then the average NPV [net present value] would drop from +\$80,000 to -\$5,000, just slightly negative, or by \$85,000, thus identifying public goods as contributing powerfully to the result. A similar calculation shows that treating congestible goods (roads, police, etc.) as public goods with zero marginal costs would add \$80,000 to the baseline NPV, for a total of +\$160,000 (National Research Council, 1997, p. 346).

A static analysis by Passel and Fix (1994), in which the marginal cost of providing a range of public services to immigrants was assumed to be zero, estimated the net fiscal impact of immigration in the United States to be +\$25 billion for 1992. Replicating this analysis—but changing the allocation assumption to one in which the marginal cost of providing public services to immigrants is set equal to the average cost—Borjas (1994) re-estimated the net annual fiscal impact associated with immigration in the United States to be about −\$16 billion.

Some public expenditures pose additional, interesting analytic issues. One is law enforcement. While data limitations are significant and the research on the topic undeveloped, a review of recent literature on crime and immigration (commissioned by the sister panel to this one) reached a number of conclusions—among them the following from Kubrin (2014):

- Immigrants are generally less crime prone than their native-born counterparts.
- However, this individual-level negative association between immigrants (relative to the native-born) and crime rate appears to wane across immigrant generations: The U.S.-born children of immigrants exhibit higher offending rates than their parents.
- Areas, and especially neighborhoods, with greater concentrations of immigrants have lower rates of crime and violence, all else being equal.
- Theories to explain this negative association between crime rate and immigration have not been sufficiently empirically evaluated.

These findings suggest that a practical starting point for treating crime and law enforcement is to assign costs on a pro rata, or per capita average cost basis. However, with more granular data, it could be reasonably argued that a smaller-than-average per capita cost should be assigned to new immigrants.

Border enforcement is a special subcategory of law enforcement, and the literature is quite unresolved about how to treat its cost. The Secure Fence Act of 2006 authorized hundreds of additional miles of fencing along the U.S.-Mexico border. The annual budget of the Border Patrol increased from \$363 million in 1993 to \$3.5 billion in 2013. Since the creation of the Department of Homeland Security in 2003, the annual budget of Customs and Border Protections, which includes the Border Patrol, doubled from \$5.9 billion to \$11.9 billion in 2013. Spending on Immigration and Customs Enforcement, the interior-enforcement counterpart to Customs and Border Protections within the Department of Homeland Security, grew from \$3.3 billion since its inception in 2003 to \$5.9 billion in 2013. The budget for Enforcement and Removal Operations has increased from

\$1.2 billion in 2005 to \$2.9 billion in 2012.²¹ These are large budget increases for individual programs, but they represent only a very small fraction of government expenditures, and so they can only have a limited effect on estimates of per capita fiscal impacts.

There are at least two defensible options for allocating the cost of these programs. Probably the least controversial default option is to divide the cost among all, foreign-born and native-born. The foreign-born who have been in the country for a long time have pretty much the same things to gain and lose as the native-born. Conceptually, it might make sense to treat recent immigrants, especially those still trying to unify families, etc. differently, but to try to slice it that fine in the actual projections would be very difficult.

Alternatively, an analysis could start with the premise that unless one thinks that the bulk of the money is spent processing new immigrants or handling their visas (unlikely), this is not a cost of immigration but rather the cost of keeping immigrants out. Ascribing that cost to immigrants creates the perverse effect that the more effective the program is (or the more money devoted to it), the more expensive it is per immigrant who arrives in the United States during the period of analysis. Consider the following example: suppose that (at immense expense) U.S. border security and immigration control programs manage to seal the U.S.-Mexico border so effectively that during an entire year, only one illegal immigrant manages to successfully cross it. Using the approach in question, the billions spent on these programs would be ascribed to that one person. The more immigrants who manage to cross the border, the lower are the per capita cost of the programs. In light of these perverse consequences, it appears more reasonable to treat these programs as additional pure public goods and to not ascribe their cost to (arriving) immigrants only but to spread the cost across all residents, either including or excluding the arriving immigrants.

In a general equilibrium analysis, the question of how to distribute these costs is more complicated, as the efficacy of border enforcement affects labor and other markets throughout the economy. Massey et al. (2015), using data from the Mexican Migration Project, estimated the determinants of departure and return according to legal status. They found that, since 1986, Mexico-U.S. circular migration “has declined markedly for undocumented migrants but increased dramatically for documented migrants . . . [and] return migration by undocumented migrants dropped in response to the massive increase in border enforcement.” Return migration of documented migrants was unaffected (Massey et al., 2015, p. 1015).

²¹Ewing, W.A. (2014). *The Growth of the U.S. Deportation Machine and Its Misplaced Priorities*. Available: <http://immigrationimpact.com/2014/03/10/the-growth-of-the-u-s-deportation-machine-and-its-misplaced-priorities> [November 2016].

Given the economic benefits of circular and temporary migration for work purposes,²² it is certainly possible that additional costs have been created to the economy by the increased border enforcement, beyond the narrow costs of the programs themselves in the federal budget.

Finally, if indirect impacts are also considered (see “Indirect/Secondary Fiscal Impacts” above in Section 7.4), accurate estimation of fiscal impacts would require including the contribution of immigrants to the delivery of public services, not just their consumption of these services. In a number of government service sectors (e.g., health care), recent immigrants have lowered costs because of their availability and willingness to work at a lower wage than native-born workers. This type of effect would only be detected in partial equilibrium analyses, such as most of those reviewed in Chapter 5, if, for instance, their presence in the labor market lowered native wages or reduced their employment.

Fiscal Imbalance—Dealing with Debt

For forward-looking projects such as the *generational accounting* model used in Chapter 8 (and in *The New Americans*), assumptions must be made about the government’s intertemporal budget constraint and about the tax burden across generations. To calculate the path of revenues and expenditures (and accumulating deficits), it is necessary to overcome the reality that one does not know what future fiscal balances will look like and what the level of deficit financing will be. Budgetary adjustments imposed to conform to an assumption about the debt/GDP ratio must be divided between tax increases and benefit reductions. Assumptions about how (and to what extent) net tax payments made by current and future generations cover the present value of future government expenditures and help to pay the debt can have a large impact on the estimates of fiscal impacts. In *The New Americans*, this assumption was handled as follows: A government “cannot let its debt grow without limit relative to the economy, as measured by gross domestic product (GDP), without losing credibility in its ability to repay and may eventually face default. To reflect this, it is necessary to assume that the ratio of debt to GDP stabilizes at some point” (National Research Council, 1997, p. 299). The baseline scenario for that study used 2016 as the time when fiscal policy would hold the debt/GDP ratio constant. Among the alternatives cited in *The New Americans* (National Research Council, 1997, p. 300) to the assumption that government must be in balance or that debt cannot exceed a given percentage of GDP (e.g.,

²²See Zimmermann (2014), which examines how circular migrants fill labor shortages in host countries while also encouraging the transfer of skills (“brain circulation”) from one geographic area to another.

current policy remains in place until the debt/GDP ratio hits 1.0), were the following:

- Current tax and expenditure policies will continue, causing the debt to explode over time (Auerbach, 1994; Congressional Budget Office, 1996).
- Debt/GDP ratio is stabilized immediately at its current value.
- Current policy remains in place for 10 years, after which the ratio is stabilized.

All three options can in principle be modeled (although the first would be complicated in a general equilibrium analysis in which one was trying to quantify what would happen to the economy as a result of an exploding national debt). Assuming a constant debt/GDP ratio means adjustment gets harder and harder for program costs like Medicare. Different scenarios will lead to different adjustments in taxes and benefit payments over time.

Assumptions about budget imbalances invoked in several of the Chapter 8 scenarios rely on the Congressional Budget Office's (CBO's) fiscal forecast from its long-term budget outlook. In the past, the CBO assumed that the upper limit for debt could reach stratospheric levels of 1,000 percent of GDP (debt/GDP ratio of 10), but since 2010 the CBO has adopted a maximum ratio of 250 percent. This constraint seems likely because at that level either the cost of debt service plus whatever else the government spends exceeds the maximum amount that can be raised in taxes (this is where tax revenue reaches the top of the Laffer curve in their models) and because there is no precedent in modern history for sustaining this level of debt (the relevant precedent is the United Kingdom after the Napoleonic Wars, when the debt/GDP ratio reached about 230%). Of course 250 percent is still very high,²³ and it is hard to imagine that fiscal policy will not have to change long before that ratio is reached, but any number that is chosen will be equally arbitrary.

Fiscal balance also plays a role in static analyses. For the average individual in the population, the net fiscal contribution must be negative if the country is running a deficit for the year of analysis. Therefore, as Dustmann and Frattini (2014, p. 598) pointed out, "The absolute net contributions of different populations may not be a meaningful measure of their fiscal contribution because these figures depend on the magnitude of the deficit. What is more insightful is their relative contribution in comparison to other population groups, especially as this comparison somewhat 'eliminates' the common deficit effect as far as it affects different groups in the same way."

²³The current debt-to-GDP ratio (including external debt) for the United States is about 105 percent; the all-time high for the country, reached in 1946, was about 122 percent.

Appropriate Discount Rate (for dynamic analysis only)

The government borrowing rate determines, in expected value, the present value of future net dollar flows in the budget. A discount rate may be higher than the borrowing rate if it reflects additional risk characteristics of future income or income taxes (Auerbach et al., 1991). The practical importance of the choice of discount rate is that it determines the relative importance of fiscal flows at different points in time. Lower discount rates will place more-similar weight on an immigrant's near-term expenditures and taxes (e.g., during school and early working years) and longer term ones (e.g., during retirement), compared with a higher rate. By extension, the lower rate will place a relatively higher weight on descendants in the calculation of net present value. In contrast, higher rates discount future flows more heavily than lower rates, giving greater weight to near-term fiscal flows and less to those far into the future, such as taxes paid or program expenditures for descendants. The alternative interest rate scenarios in *The New Americans* illustrate that changing the discount rate has a large effect on the net present value estimates of an immigrant's fiscal impact. The "baseline scenario" for that report—which, among its required assumptions (listed on pp. 325-326), used a real interest rate of 3 percent—yielded a lifetime total fiscal impact (federal and state/local combined) for an "average" immigrant of +\$80,000 (net present value). However, the net present value climbs to +\$219,000 if the interest rate is changed to 2 percent, and drops to +\$39,000 if a 4 percent rate is used. When interest rates of 6 and 8 percent are used to reflect "the uncertainty of future tax revenues," the net present value of the average fiscal impact of an additional immigrant falls to +\$15,000 and +\$8,000 respectively.²⁴

One discount rate that has been used in fiscal impact analyses is the real rate of interest at which the U.S. Treasury can borrow. This rate is hard to predict, and even retrospectively it depends on the maturity of the bonds being sold. The CBO uses 1.7 percent as the real interest rate of Treasury borrowing for 2014 to 2039 and 2.2 percent thereafter for real returns but 2.5 percent for debt held by the Social Security and Medicare Trust Funds.²⁵ By contrast, to reflect a particular risk profile for investment in

²⁴We do not perform this sensitivity analysis for our lifetime net fiscal impacts calculations in Chapter 8, but the order of magnitude in variation with changes in the interest rate assumption would be similar to that described here.

²⁵As noted by the CBO (Congressional Budget Office, 2014a, pp. 110-111):

The estimates and assumptions underlying the economic benchmark suggest that the inflation adjusted rate of return on 10-year Treasury notes will be one-half to two-thirds of a percentage point lower in the coming decades than it was during the 1990–2007 period. Therefore, CBO projects that the interest rate on 10-year Treasury notes (adjusted for the rate of increase in the CPI-U) will rise in the next

the context of the economic impacts of climate change, William Nordhaus's DICE-2013R model uses 4.25-5.00 percent, depending on whether the model is running a near-term or long-term scenario (Nordhaus and Sztorc, 2013, p. 38). The panel views a discount rate in the 2-3 percent range as a reasonable compromise.

7.5 DISTRIBUTIVE FISCAL EFFECTS— FEDERAL, STATE, AND LOCAL

Tax inequities arise across states and regions because (1) public goods and services are provided by governments at the federal, state, and local levels; (2) different kinds of taxes are collected at these levels; and (3) immigrants are not uniformly distributed across jurisdictions. Equitable immigration policy making must take these inequities into account. Among the wide range of services financed by states and local governments—ranging from public welfare and health, to capital outlays on highways and to police and fire protection—the largest expenditure category is investment in the population's education. Because immigrants are not distributed uniformly across the country (and because people frequently find jobs in locations other than where they were educated), inequalities in fiscal impacts attributable to their arrival can occur across areas. About 74 percent of all foreign-born lived in 10 states as of 2010, and in these states they are concentrated in major metropolitan areas.

Whereas state and local governments tend to support programs for the young, the federal government's fiscal responsibility falls disproportionately on programs for the elderly—specifically pensions and health care—which

few years from its current, extraordinarily low level to average 2.5 percent over the 2014–2039 period and over the longer term—compared with its average of 3.1 percent between 1990 and 2007. The average interest rate on all federal debt held by the public tends to be a little lower than the rate on 10-year Treasury notes. The reason is that interest rates are generally lower on shorter-term debt than on longer-term debt, and the average maturity of federal debt is expected to remain at less than 10 years. Thus, CBO projects that the average real interest rate on all federal debt held by the public (adjusted for the rate of increase in the CPI-U) will be 1.7 percent over the 2014–2039 period and 2.2 percent over the longer term. (The average interest rate on all federal debt is projected to rise more slowly than the 10-year rate because only a portion of federal debt matures each year.) CBO generally uses the average interest rate on all federal debt as a discount rate when it calculates the present value of future streams of total federal revenues and outlays in its long-term projections, as it does in estimating the fiscal gap described in Chapter 1. The Social Security and Medicare trust funds hold special-issue bonds that generally earn interest rates that are higher than the average real interest rate on federal debt. Therefore, in projecting the balances in the trust funds and calculating the present value of future streams of revenues and outlays for those funds, CBO uses an interest rate equal to 2.5 percent in the long run.

occur later in life. When immigrants are on average younger than the population as a whole—as has traditionally been true (though this is changing somewhat in recent decades)—states tend to incur the more immediate costs of new immigrants.²⁶ Furthermore, only a portion of the fiscal benefit of immigrants—the taxes they pay—accrue to state and local governments, with a substantial share going to the federal government. This means that, even if the arrival of immigrants creates a neutral net fiscal impact in the long run, some subnational areas will incur net costs, while others and the federal government may incur net benefits. Additionally, some states may be net exporters to other states of college-educated graduates transitioning into the workforce. Ideally, life-cycle fiscal impact models would quantify the benefits over the long term that accrue to states that have made strong investments in public education, taking into account subsequent interstate migration of those who have been educated.

The state analyses of New Jersey and California reported on in *The New Americans*, which were based on Garvey and Espenshade (1998) and Clune (1998), respectively, confirmed the intuition that an inflow of foreign-born individuals affects state finances disproportionately. For New Jersey, in the fiscal year 1989-1990, the net fiscal cost to state and local budgets associated with immigrant-headed households was estimated to be \$232 (adjusted to 1996 USD) per native household. In the case of California, the state and local fiscal burden imposed on native residents by immigrant-headed households was estimated to be \$1,178 per native household for fiscal year 1994-1995 (again adjusted to 1996 USD). For both studies, all publicly provided goods other than national defense were assigned equally (pro rata) across the full population, foreign-born and native-born. In contrast, the addition of immigrants in these states was estimated to have generated net fiscal contributions to the federal budget (National Research Council, 1997, pp. 292-293).

Lee and Miller (2000), updating results from the analysis in *The New Americans*, confirmed that the fiscal impact of immigration at the federal level is largely positive and typically negative at the state and local levels. However, fiscal outcomes are sensitive to both the amount of immigration and the kinds of immigration that occur, as well as the prevailing tax rates and rules on benefits. Local results vary widely depending on whether or not a locality receives large numbers of immigrants. Areas that do not attract immigrants may still benefit from the federal tax advantages that are created without having to shoulder the marginal local costs generated

²⁶In a review of the literature for the United States, Kandel (2011) concluded that the relatively young age distribution of the foreign-born accentuates the degree to which state and local governments incur greater fiscal costs from the foreign-born than the federal government.

by incoming populations. Additionally, spending patterns (e.g., on schools or other benefits) and taxes (e.g., property taxes) may in turn influence the level and composition of immigration attracted to an area.

While education expenditures and income tax revenues create much of the redistribution from state to federal jurisdictions, there are other factors. One example is the cost of public safety, law enforcement, and corrections; the federal government reimburses state and local entities a fraction of costs to incarcerate criminal aliens, the remaining costs are borne by local governments. Though a growing population will typically add to the total cost of policing and enforcement, evidence cited above suggests that the marginal cost added by an immigrant may be less than the average cost for the population, as the new arrivals generally exhibit lower crime rates than do natives. Another cost of immigration is created by the use of welfare programs (see Chapter 3 for a detailed profile). Programs, such as Social Security and Medicare, Medicaid, and Temporary Assistance for Needy Families, create expenditures affecting the fiscal picture at the federal level. However, because the foreign-born are disproportionately of working age and contributing through payroll taxes, increases in immigration have improved Social Security's finances (Social Security Administration, 2015). Immigrant households' use of food assistance programs and Medicaid is much higher than that of native-headed households—not as a result of not working (in 2009, 95% of immigrant households with children had at least one person working) but because of lower levels of education and income. Use of cash and housing programs for the two groups is similar. The extent of the impact differential for welfare programs between foreign- and native-born varies by state, by localities within state, and by specific program (see Table 3-15, Chapter 3, on welfare use for immigrant and native households with children). Likewise, the burden of immigration on law enforcement is not evenly distributed across states because a handful of states incarcerate the majority of noncitizens who commit crimes. Additionally, Branche (2011) explored the costs that cities incur under various programs of immigration enforcement and found that federal contributions did not suffice to compensate for the loss at the state level.

7.6 SUMMARY AND KEY POINTS

Estimating the fiscal impacts of immigration is complex. How the exercise is framed and what assumptions are built into the model depend to a significant degree on the questions of interest. For some policy questions, forward-looking costs and benefits projected to accrue as a result of an additional immigrant (and his or her descendants), or the in-flow of some number of immigrants, may be most relevant. For other questions, the budget implications for a given year associated with the stock, or recent

changes in the stock, of foreign-born people residing in a state or nation may be the primary interest—this is often the case for legislators. Sometimes the question is about absolute net fiscal impacts; sometimes it is about the impact of immigrants *relative* to the native-born.

All population subgroups make contributions to government finances by paying various kinds of taxes and add to expenditures by consuming public services—but the levels differ. Therefore, **models of the fiscal impacts of immigration must distinguish between citizens and noncitizens and, for the latter, authorized and unauthorized individuals.** Legal status is often central to determining what services immigrants qualify for and tend to use and what taxes they are required pay.

There are two basic accounting approaches to estimating fiscal impacts, one static and the other dynamic. Static models are conducted for a specific time frame, often a tax year. The contribution to public finances of immigrants (and, in many analyses, dependent household members) as well as government expenditures on benefits and services supplied to that population are computed and are often compared with those of the native-born. If data are available, cross-sectional static models can be repeated over multiple years to gain a sense of fiscal impacts for a historical period. Dynamic accounting approaches, in contrast, compute the net present value of tax contributions and government expenditures attributable to immigrants, and in some analyses the resulting generations, projected over the immigrants' (and their descendants', if included in the analysis) life cycles. Such analyses involve modeling the impact of an additional immigrant on future public budgets.

Among the advantages of the **static approach** (and, implicitly, the disadvantages of the dynamic projections) are the following:

- **Conceptual simplicity due to comparatively less reliance on assumptions**—assumptions are not needed about future population trends (which depend on further assumptions about fertility rates, life expectancies, and return migration rates), income growth, economic performance, tax rates and program use, deficit and debt profiles, and immigration policy changes—which introduce a high degree of uncertainty into estimates that require such assumptions.
- The backward-looking perspective of a static analysis enables the **use of data on observed flows of revenues and expenditures associated with immigrant-driven expansion of the population.**
- If repeated cross-sectionally, a static approach can provide **rigorous estimates of the net fiscal contribution of immigrants up to the present time** (or, as far as is covered in the data) who arrived in a country after a given point in time.

Among the advantages of **dynamic projection models** (and, implicitly, disadvantages of the static approach) are the following:

- They provide a **forward-looking perspective for estimating the fiscal impacts of immigration in a life-cycle framework**, creating the capacity to incorporate results into policy scenarios using alternative assumptions about the number of immigrants entering the country, their characteristics, and their legal status.
- They provide a **capacity to adjust for structural differences between migrants and natives**—for example, to assess the impact of immigration on population aging, which in turn may affect economic outcomes and the sustainability of government programs.

A preliminary step in all fiscal analyses is to select the unit of analysis. For dynamic analyses, the household unit of analysis is problematic because household structure changes over time through marriage, divorce, widowhood, the departure of grown children, the arrival of additional family members from abroad, death, etc. (National Research Council, 1997, p. 305). Additionally, native-born individuals reside in immigrant-headed households and vice versa. Therefore, **the individual unit of analysis is appropriate for dynamic analysis** since households are not stable over time and because it allows the costs and benefits originating in mixed households to be divided between native-born and foreign-born members, as opposed to having to ascribe them exclusively to one group or the other.

For cross-sectional analyses, the choice is somewhat different, although a case can still be made for again selecting the individual as the primary unit. Aside from being consistent with the method used for the dynamic analysis, even at a point in time, there is an issue of how to define an immigrant household—by head, by requiring both adults to be foreign born, etc.—that is largely avoided by focusing on individuals. This task becomes even more problematic for a repeated cross-sectional analysis that spans 10 or 20 years.

Assumptions must also be made about how to treat fiscal impacts generated by the children of immigrants. In forward-looking projections, the logic for including second generation effects is straightforward: Even if children of immigrants are native-born citizens, the costs and benefits that they generate would not have been realized without the initial addition to the population of the immigrant parent(s). Given that educational attainment drives projected earnings and tax payments, assumptions must be made about it as well. Final education level attained is typically predicted as a function of parental education. In cross-sectional analyses, this life-cycle effect will be driven by current demographic composition. Costs associated with educating the children of immigrants that accrue during the analysis

period are included in the fiscal estimate; however, a good case can be made for treating these expenditures as an investment, due to the strongly positive association between level of education and eventual contributions to tax revenues. This return on investment is only captured (and imperfectly, except in a steady state) in cross-sectional data to the extent that the data are detailed enough to reveal the earnings of grown children of immigrants. Even then, except in a steady state, the net fiscal contribution of today's grown children of immigrants is a blunt estimate of the future impact of today's young children.

Assumptions must also be made about the legal access to and use by immigrants of public services and how this additional use affects the cost of their provision. Ideally, data would be available to allow estimates of how a marginal immigrant changes public costs (and quality of service). In the absence of such data, assumptions must be made. **For services such as education and health care, where the total cost of provision is roughly proportional to the number of recipients, expenditures should be assigned on a pro rata basis, or per capita average cost basis, in the accounting exercise.** A practical starting place for treating crime and law enforcement is to assign costs on a pro rata, or per capita average cost basis as well. In other cases, the marginal cost of provision may differ significantly from the average cost. For some “congestible public goods,” the marginal costs of additional population (immigrant or native) may be higher than average cost. For pure public goods²⁷ (defense, government administration, interest on the national debt), the marginal cost due to immigration is, at least in the short run, zero or close to it. **Thus, for answering some questions, it may be reasonable to allocate the costs of pure public goods to the native-born or to the resident population prior to the arriving immigrants (a resident population consisting of natives and earlier immigrants). Since public goods such as national defense represent a large part of the federal budget, the choice of how to allocate these expenditures will have a large impact on fiscal estimates.** It is instructive to run alternative scenarios to gain a sense of the magnitude imparted by this choice.

For the forward-looking generational accounting model, assumptions must be made about the government's intertemporal budget constraint and about the tax burden across generations. **Projections of future fiscal policy and deficits depend on many unknown and uncertain aspects of the future context, about which choices must be made.** For example, one set of estimates in Chapter 8 relies on the CBO's fiscal forecast from its long-term budget outlook. Since 2010, the CBO has adopted a maximum deficit level

²⁷A pure public good has the characteristics that (1) its consumption by one individual does not reduce the amount available to be consumed by others, and (2) it is not possible to exclude any individuals from consuming the good.

of 250 percent of GDP and no more. This choice is driven by the notion that, at this level, the cost of debt service plus whatever else the government spends exceeds the maximum amount that can be raised in taxes and by the fact that there is no precedent in modern history for sustaining this level of debt.

The government borrowing rate determines, in expected value, the present value of future net dollar flows in the budget. For the panel's analyses, the relevant discount rate is the real rate of interest at which the U.S. Treasury can borrow. This is hard to predict and, even retrospectively, it depends on the maturity of the bonds being sold. The CBO uses 1.7 percent for the discount rate from 2014 to 2039 and 2.2 percent thereafter for real returns, but 2.5 percent for debt held by the Social Security and Medicare Trust Funds. The choice of discount rate has a large impact on estimated net present value of future fiscal impacts of an additional immigrant. **Because this and other assumptions have such a substantial impact on absolute estimates, comparative figures—for example, comparisons of the estimates for different education groups or for immigrants relative to the native-born—are more interesting and reliable than the absolute figures.**

Finally, tax inequities across states and regions arise because (1) different types of government goods and services are provided by federal, state, and local levels, (2) different kinds of taxes are collected at these jurisdictions, and (3) immigrants are not uniformly distributed across jurisdictions. Previous research (e.g., Lee and Miller, 2000) has firmly established that the fiscal impact of immigration at the federal level is largely positive and typically negative at the state and local levels. However, fiscal outcomes are sensitive to both the amount of and the kinds of immigration that occur, as well as the prevailing tax rates and benefits rules.

8

Past and Future Fiscal Impacts of Immigrants on the Nation

8.1 INTRODUCTION

Chapter 7 described accounting approaches for assessing the fiscal impact of immigration and outlined the conceptual challenges involved in its measurement given that the counterfactual scenario (no immigration) is unobservable. In this chapter, the panel applies these concepts to estimate the fiscal impacts of immigration at the national level. In so doing, the underlying variation across geographic regions that is important for a full understanding of the impacts of immigration is ignored at this point. These national estimates incorporate the U.S. federal government budget in its entirety and a single aggregation of budgets in the 50 states and their localities. Chapter 9 explores variation in state and local fiscal impacts across states in detail.

The panel chose to set geographic variation aside (for the time being) in order to focus on how fiscal impacts of immigrants have changed over time. As described in Chapter 9 and elsewhere in this report, over time there has been considerable change both in states' fiscal policies and practices and in geographic patterns of immigrant receiving and internal migration. These are important features that mediate impacts on particular geographic regions. But the aggregated national analysis may be more directly useful for national immigration policy, and it provides a feasible method of assessing trends in fiscal impacts over time.

In the sections that follow, the panel first documents the path of net annual fiscal impacts and the relevant characteristics among immigrants and natives during a recent historical period for which good coverage in

annual cross-sectional data exists. Covering 20 years of immigrants' experiences, from 1994 to 2013, these data allow annual fiscal effects to be decomposed into amounts attributable to different immigrant generations. However, it is important to note that these cross-sectional estimates of fiscal impacts are heavily influenced by the age distribution of the underlying groups at the time of data collection. Thus, although such cross-sectional "snapshots in time" are instructive, they do neglect the evolution of fiscal costs and benefits over time that occurs as these groups age—an evolution that we know to be important (see Chapter 7). After children are born, their average fiscal impacts remain negative for many years because they absorb benefits in the form of public education and other support while paying little or no taxes. But children eventually become adults, many of whom work and, for sustained periods, pay more in taxes than they receive in expenditures on benefits. In old age, the fiscal-impact pendulum typically swings back the other way. To some extent, today's older immigrants may be taken as proxies for today's young immigrants observed in future periods. But simply assuming an older age group in a cross section is identical to a younger age group observed at a later time is likely to offer a misleading portrait of the cumulative fiscal impacts of any particular cohort of immigrants over that cohort's life span.

The above limitation of the cross-sectional analysis establishes the rationale for estimating life-cycle fiscal impacts. The second task undertaken in this chapter is to formalize conjectures about future life-cycle fiscal impacts in a systematic way. The panel presents a longitudinal forecast of the future national fiscal impacts of immigrants arriving today, using updated methodologies developed for the 1997 *New Americans* report (National Research Council, 1997) and updated data and assumptions about future growth rates, interest rates, and demography. Because the children of immigrants play an important role in the fiscal impact of immigration, we pay special attention to fertility rates and intergenerational patterns of educational attainment, and we factor in return-migration behavior. The forecast aims to answer the following question: In today's dollars, what is the predicted long-term net benefit to domestic governments of an additional immigrant and that immigrant's descendants?

8.2 HISTORICAL FISCAL IMPACTS OF IMMIGRATION, 1994-2013

This section provides cross-sectional estimates of the fiscal impact of immigration for the nation at specific points in recent history. These estimates are possible because data essential for this kind of analysis have now been available for an extended period. The addition of questions about parents' places of birth to the annual demographic supplement to the Current Population Survey (CPS) enabled *The New Americans* to explore the

current and future fiscal impacts of first and second generation immigrants, which tended to differ significantly (National Research Council, 1997). At that time, only samples for 1994 and 1995 were available with sufficient data fields to identify generational status, so pooling these years to allow for sufficient sample size generated a dataset for a single cross-sectional analysis. With almost two decades of additional data now available, the current panel was able to create a sequence of multiple cross-sectional samples. Thus, we can examine the impacts of immigration, taking into account both the first and second generation, during this historical time interval.

Notes on Measurement

As in the national fiscal projections for the 1997 report, the analyses in this chapter focus on individual immigrants rather than immigrant households (although, when the costs of children are allocated to adults in the same households, as is done much of the time here, a quasi-household structure is created). While many studies of the fiscal impacts of immigration adopt immigrant-headed households as the unit of account, measuring benefits and taxes at the individual level facilitates longitudinal calculations of the type presented in Section 8.3, where the future fiscal impacts of immigration are explored. Households may change their composition over time through marriage and divorce, deaths, births, adoptions, move-ins and move-outs, additions or subtractions of members beyond the nuclear family, and so forth. Also, immigrant-headed households often contain nonimmigrant members. Following individuals is simpler because decision rules for allocating fiscal flows in the face of some of these family-dynamic complications can be avoided.

Within the data analysis approaches used in this chapter, fiscal positives (taxes) and fiscal negatives (expenditures on program benefits) are first allocated to the individuals most closely linked to them. In some cases this individual allocation creates some additional interpretive tasks, relative to household analyses, in order to identify the fiscal impact of a particular population group defined by nativity and generation. The costs of educating the U.S.-born children of immigrants are particularly important in this regard. In a household-based analysis, public education unambiguously creates a cost attributable to the immigrant-headed household. For an individual-based analysis, the cost of public education is detected due to the presence of a child in the household and is initially assigned to that child. In some of the analyses below, we present data in such a way that the age- and individual-specific timing of fiscal impacts (both positives in the form of taxes and negatives in the form of program costs) can be shown—even for children. In other analyses, the fiscal impacts of individuals and their dependents are combined and the impacts of the latter are attributed their parents' genera-

tional groups. Details about which allocation procedure is used are provided for each of the accounting exercises reported on below.

Age profiles—indicating average flows of taxes or benefits by education, by immigrant generation, and in some cases by time since the immigrant’s arrival—are central to the accounting and forecast methods used here. To generate these profiles, the panel used data from the Annual Social and Economic (March) Supplement of the CPS, which provides annual estimates of program utilization as well information on the characteristics (such as education and nativity) of respondents. These age profiles are used in both the historical static and lifetime forecast analyses presented in this chapter.¹ Single-year age profiles were constructed by averaging three adjacent years’ worth of data for smoothness. These age profiles are then rescaled for each middle year so that—when applied to population estimates by age, education, immigrant generation, and time-since-arrival in that middle year—they capture the total flows for a given program in that year in an estimate that is consistent with administrative sources.² Details

¹The main alternative to the CPS that could have been used is the Survey of Income and Program Participation (SIPP), conducted by the Census Bureau. The CPS and SIPP each have advantages and disadvantages. While ultimately choosing not to use it for other reasons, *The New Americans* (National Research Council, 1997) panel concluded that the greatest strength of SIPP is that it contains more accurate monthly data on program participation and expenditures and richer information on wealth and income sources than does the March CPS. The current panel, like the panel that authored the 1997 report, chose to use the CPS due its substantially larger sample size. Because the analyses in this report required cells defined by age, immigrant generation, and education, as well as some separate analyses at the state level, sample size was critical. The March CPS also has an oversample of Hispanics (and a number of other groups, including Asians), which increases representation of immigrant and second generation households. In addition, because the March CPS is conducted every year, it is possible to combine across years to further increase the sample size. Moreover, the state-level analysis in Chapter 9 would not have been possible using the SIPP, and the panel felt it was important to use a consistent data source across analyses. Timeliness was also an issue. The lags in release of new SIPP data are much longer than those for the March CPS, which is available in the fall of each survey year. Current immigration research based on SIPP is using the data from the 2008 panel. The immigrant population had a different composition by 2011–2013 relative to 2008—specifically, the more recent period has lower percentages of unauthorized immigrants, fewer Mexican immigrants, and more Asian immigrants. Also, program use and employment change over time. Regarding potential bias, both data sources are known to underreport income and program use. And although internal panel calculations indicated that SIPP shows higher program use than does the CPS, the differences were about the same for immigrants and natives, so the bias was not related to immigrant status but rather just an overall feature of the CPS. Thus, adjustment to administrative totals for income and program use addresses much of the known underreporting problem.

²The analyses in this chapter make the de facto assumption that immigrants are represented in the CPS roughly proportionally to their representation in the population. For each benefits program, CPS data are adjusted for under- or over-reporting by scaling each record by a single multiplicative factor for that particular program so that the accumulated aggregate over all records match program totals from National Income and Product Accounts. However, there is

about the estimation methods for specific programs are listed in the Technical Annex to this chapter.

To assess the robustness of the panel's historical estimates, we conducted a sensitivity analysis by varying assumptions about program utilization and about how public expenditures are attributed. We broadly followed the methodology of Dustmann and Frattini (2014), who specified two overarching cost scenarios in which immigrants incur either the average cost or the marginal cost of public goods, plus a number of subscenarios within each of these two. Their baseline specification has immigrants incurring the average cost of public goods. For our analysis, we used the eight scenarios listed in Box 8-1, the first of which is the average-cost baseline, consistent with Dustmann and Frattini (2014).

Dustmann and Frattini (2014) explained the rationale for examining these particular scenarios. In theory, as explained in Chapter 7, pure public goods can be enjoyed by an unlimited number of citizens, implying that the cost of providing them to an additional immigrant should be zero (the marginal cost scenario). But in practice one expects most services provided by governments to be susceptible to congestion. As described in detail in Chapter 7, assigning to immigrants the average cost of public goods—like defense spending, or total defense outlays—calculated across all U.S. residents is a conservative assumption in that it generates estimates that may overstate the net cost of an additional immigrant. Thus, to examine robustness of findings based on the average-cost approach, the panel included scenarios (5 through 8) that assign a marginal cost of zero for public goods, under the assumption that an additional immigrant does not increase the total cost to the nation of services such as national defense.

Scenario 1 includes interest payments as a component of public goods spending, along with defense, foreign aid, and state and local spending

likely a differential undercount of the unauthorized component of the immigrant population. Based on a residual method that compares survey estimates of the resident population with administrative data on legal immigration, a number of researchers (e.g., Baker and Rytina, 2013; Passel and Cohn, 2014; Warren and Warren, 2013) have estimated the characteristics of the unauthorized population, including its fiscal impacts. These estimates suggest that unauthorized immigrants as a group may have a more positive fiscal impact than authorized immigrants, but only because of their age structure. The average undocumented immigrant is of younger working age than the average documented immigrant (there are very few undocumented immigrants of retirement age); thus, the net fiscal impact of the former is more positive at the federal level and overall. Also, as detailed in Chapter 3, undocumented individuals, young unauthorized immigrants who qualify for the Deferred Action for Childhood Arrivals Program, temporary visa holders, and recent legal permanent residents are ineligible to receive benefits from some programs; and unauthorized immigrants do not qualify for the earned income tax credit. Nonetheless, since, at any given age, unauthorized immigrants tend to earn less than their authorized counterparts, controlling for age, they are less of a benefit to public finances than authorized immigrants.

BOX 8-1
Alternative Scenarios for Attributing Public Expenditures to Immigrants and Natives

- Scenario 1: Immigrants and natives incur the average cost of public goods
- Scenario 2: Same as scenario 1, but interest costs are excluded
- Scenario 3: Same as scenario 1, but immigrants' consumption and sales and excise taxes are reduced by 20 percent
- Scenario 4: Same as scenario 1, but capital income taxation is not contributed by immigrants before 10 years in the country
- Scenario 5: Immigrants incur the marginal cost of public goods (zero), and natives incur the total cost
- Scenario 6: Same as scenario 5, but interest costs are excluded
- Scenario 7: Same as scenario 5, but immigrants' consumption and sales and excise taxes are reduced by 20 percent
- Scenario 8: Same as scenario 5, but capital income taxation is not contributed by immigrants before 10 years in the country

categories such as subsidies and interest payments. In scenarios 2 and 6, we remove interest payments from the public goods calculation because they represent the cost of servicing debt attributable to past spending and deficits from which new immigrants did not benefit.³ Scenarios 3 and 7 follow *The New Americans* (National Research Council, 1997) in estimating the consumption of immigrants by assuming a constant real amount of income is remitted to the country of origin and thus not spent in the United States. Based on a conservative reading of a study using data on Germany, Dustmann and Frattini (2014) assumed that immigrants send remittances back to their home countries at levels that affect consumption such that U.S. sales and excise taxes paid by them are reduced by 20 percent relative to the average for the general population. This adjustment factor is used in scenarios 3 and 7 to provide another robustness assessment that is consistent with their methodology. In scenarios 4 and 8, the panel explores

³Interest payments, the vast majority of which go to servicing the debt, are not raised right away by an immigrant entering the country—they represent the current cost of servicing past deficits to which new immigrants did not contribute. Over time, an additional immigrant may affect the level of debt and thus debt payments, depending on his or her net fiscal impact. But, particularly for the intergenerational projection exercise (in the second part of this chapter), this calculation would be very complicated as each lifetime profile of marginal fiscal net contribution or cost uniquely affects the debt and debt service costs. Treating the marginal contribution of immigrants to debt service as either zero or average cost as we do provides a range of possible results, although given the impact of discounting on future flows, the true impact would be much closer to the zero cost than the average cost scenario.

the effects from assigning zero capital income taxation to immigrants who have been in the United States for less than 10 years. In the other scenarios, the implicit assumption is that ownership of company shares is distributed similarly across native- and foreign-born populations. But scenarios 4 and 8 assume that recent immigrants do not own shares of U.S. companies and therefore do not make capital tax payments. Although new arrivals do have lower ownership than the general population, this simplifying assumption is clearly an overstatement of the difference in stock equity between natives and immigrants. Nonetheless, it is useful for understanding the potential impact of assumptions about capital ownership by immigrants.

In the sections that follow, the panel first describes the policy environment, and then explores the age structure and number of children of U.S. immigrants, and trends in education, working, and earnings among immigrants. We then examine the effects of variations in patterns of program utilization, receiving government benefits, and paying taxes, by age. Because the assumption about how the costs of public goods are assigned varies across scenarios, our initial analysis of age-related patterns (which follows immediately below) omits them—this allows the discussion to focus first on fiscal impacts linked to age structure. In the subsequent sections, we reintroduce public goods in order to present complete fiscal impact estimates for immigrants and natives for scenario 1 and, to test for robustness, across the other seven scenarios.

A Changing Policy Environment

The New Americans (National Research Council, 1997) was released immediately after passage of welfare reform via the Personal Responsibility and Work Opportunity Reconciliation Act of 1996 (PRWORA). PRWORA was one of the largest changes in fiscal policy in recent decades. The 1997 report attempted to estimate the effects of PRWORA on the fiscal impacts of immigrants, bearing in mind that the law denied certain means-tested benefits to noncitizens. Its authors assumed immigrants received no such transfers until after 5 years of residence.⁴ The changes in net fiscal impact of immigration associated with PRWORA, although modest, were found to make immigrants less costly to states and localities and more beneficial to federal finances (National Research Council, 1997). Subsequent analyses by Bitler and Hoynes (2013), Borjas (2002), and others indicated that, in the aftermath of PRWORA, participation rates at the national level of immigrants declined for a number of programs relative to those of natives

⁴The affected programs were Supplemental Security Income, Aid to Families with Dependent Children (AFDC), food stamps (SNAP), nonemergency Medicaid, energy assistance, rent subsidies, and public housing.

(see discussion in Chapter 3). Borjas (2002) found that much of the national decline was attributable to immigrants living in California, who experienced “a precipitous drop in their welfare participation rate (relative to natives).”

In the years since welfare reform, there have been other significant changes to U.S. fiscal policy that likely factor into the fiscal impacts of immigrants. In particular, other income support programs have grown to fill the gaps left by welfare reform. The Earned Income Tax Credit has been expanded several times over the past three decades, rising more than five-fold from an \$11 billion program in 1994 to a \$58 billion program in 2013. Similarly the child tax credit, introduced in the late 1990s, has grown into a \$22 billion program that aims to support working families. Participation in the Supplemental Nutrition Assistance Program (SNAP), also known as food stamps, declined initially after welfare reform before rising strongly due to policy reforms prior to the Great Recession, during which SNAP participation rates rose even more (Ganong and Liebman, 2013). In 2013, SNAP assistance totaled \$75 billion, up from \$23 billion in 1994.

Other changes in the federal safety net during this period included the addition of a prescription drug benefit to Medicare starting in 2006, the expansions of Medicaid, and introduction of health insurance subsidies in 2014 via the Affordable Care Act (ACA), which also aimed to rein in future Medicare spending. Undocumented immigrants are explicitly omitted from coverage and subsidies under the ACA, but authorized immigrants are fully eligible. Because the panel’s period of historical data ends in 2013, we do not include the ACA in our historical analysis. In the longitudinal forecast of the future fiscal impacts of immigrants (Section 8.3), we model the effects of the ACA following the assumptions of the Congressional Budget Office (CBO).

There were also changes in tax policy during the historical period. Income tax rates were cut across the board in 2001 but partially reinstated for high-income households in 2013. Tax rates on capital gains and dividends were cut in 2003 and were also partially reinstated for high-income households in 2013. By 2011, these tax cuts had reduced average federal tax rates on all income groups, but by more in the lowest four quintiles (Congressional Budget Office, 2014b).

By 2013, most of the federal policy responses to the Great Recession, which significantly lowered taxes and raised spending starting in 2008, had run their course. In particular, payroll tax rates, which were lowered in 2011 and 2012, returned to their precrisis levels. However, usage of means-tested benefits remains elevated compared to prerecession levels (Congressional Budget Office, 2015).

In addition to these changes at the federal level, state and local fiscal policies have also been in flux during the historical period. Chapter 9 provides details about differences across states in the effect of immigration on subnational fiscal situations.

The Age Structure of Immigrant and Native Populations

Immigrants and their children differ from natives in a variety of ways, but perhaps most notably in terms of age structure. Figure 8-1 shows the age structure in 1995 of first generation immigrants (the foreign-born) and their native-born children (the second generation), both plotted against the left vertical axis, and the rest of the native-born population (referred to here as the third-plus generation) plotted against the right axis. Figure 8-2 shows the age distributions of these three groups in 2012.

To repeat the definition of immigrant generations given in Chapter 1, “first generation” refers to foreign-born persons, excluding those born abroad and granted citizenship at birth because their parents are U.S. citizens. The second generation consists of U.S.-born persons who have one or more first generation parents. The third-plus generation includes U.S.-born persons of two U.S.-born parents and those born abroad but granted citizenship at birth because their parents are U.S. citizens. Note that persons born in U.S. outlying areas such as Puerto Rico are considered U.S. born

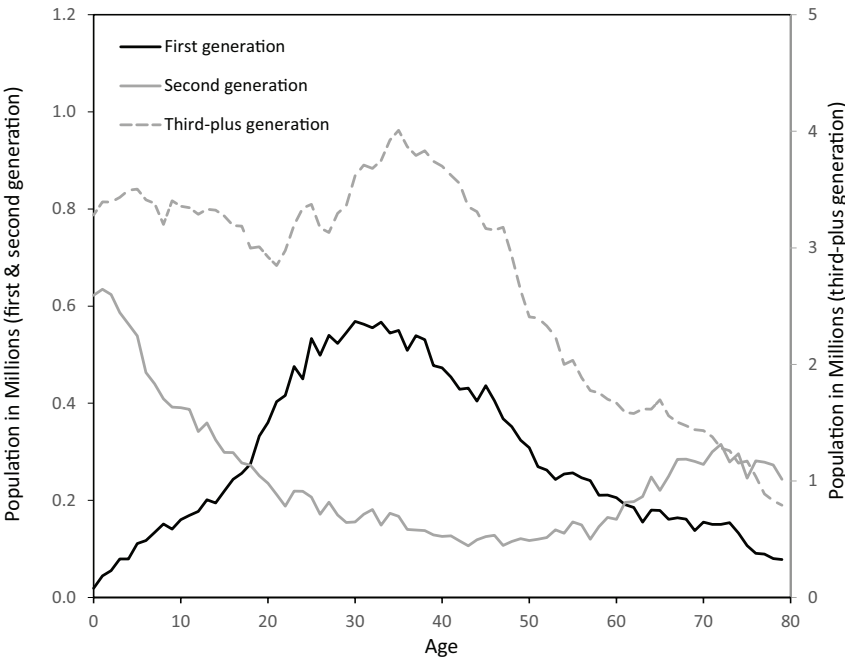


FIGURE 8-1 The U.S. population by age and immigrant status in 1995.
NOTE: “Third-plus generation” includes third and higher generations since ancestors arrived in the United States.
SOURCE: Data are from the 1994-1996 March Current Population Surveys.

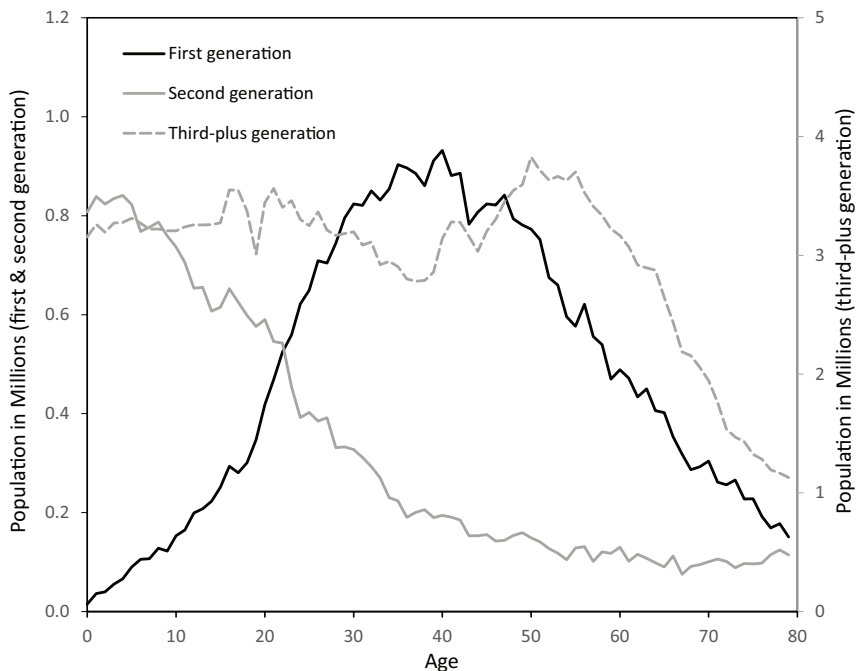


FIGURE 8-2 The U.S. population by age and immigrant status in 2011.

NOTE: “Third-plus generation” includes third and higher generations since ancestors arrived in the United States.

SOURCE: Data are from the 2011-2013 March Current Population Surveys.

in this analysis because they are citizens at birth and thus, barring legal changes in citizenship, their movement to or from the 50 states would not be affected by immigration policy.

As both figures reveal, the first generation is heavily concentrated at working ages and does not contain many very young or very old people—the latter reflects the unusually small numbers of immigration arrivals during the mid-20th century. The second generation, which in 1995 still included children of early 20th century immigrants, is nearly the mirror image of the first generation, with comparatively few members of working age and higher shares of children and the elderly. By 2012, the second generation had become more concentrated at young ages, including younger adults, reflecting the substantial growth in their parents’ population—first generation immigrants of working ages—and the mortality of the second generation children of earlier immigrant waves. By contrast, the age structure of the third-plus generation has remained more stable. However, the aging of the Baby Boom generation has produced a more rectangu-

lar (rather than pyramidal) age distribution than was typical in the past, roughly equalizing the shares of young, working-age, and older third-plus generation Americans.

Age structure is crucially important for contextualizing fiscal impacts of a group with a particular nativity status *at a point in time*—or cross sectionally. While lifetime fiscal impacts may turn out to be more similar across groups, the short-term impact of a group that is concentrated at working ages when tax contributions are high will be more positive than that of a group that is, at that time, either relatively young or elderly or both, because the latter age ranges typically receive more transfers than they contribute in taxes. Given the patterns evident in Figures 8-1 and 8-2, if tax payments are attributed to the first generation, many of whom are of working age, and the use of public expenditures on education are attributed to their second-generation children, one would expect the current net fiscal impact of the first generation to be positive and the impact of the second generation to be negative. The net fiscal impact of the third-plus generation could be positive or negative, but is likely to have become less positive with the aging of the Baby Boom cohorts. After 20 more years, the age distribution of those currently in the first generation will look a lot more like the current third-plus generation.

However, when the costs of dependent children are attributed to their parents—which, for many questions, will be the most relevant allocation—estimates of the current-year fiscal impact generated by first generation immigrants change dramatically. There are large counterbalancing fiscal impacts in an “immigrant household” grouping scheme. When a population is disproportionately of working ages, and therefore paying taxes and creating a positive fiscal impact, they are also likely to be disproportionately parents of children creating a fiscal negative, primarily in the form of public education costs. As shown below, this demographic characterization accurately describes first generation immigrants for the 1994-2013 period. In 2013, first generation immigrant households had a weighted average of 0.95 children in their households (see Figure 8-3)—much higher than the weighted averages of 0.29 and 0.48 for second generation and third-generation households. As indicated in Figure 8-3, some of this difference is accounted for by the fact that immigrants have had higher fertility over the past 17 or so years (suggested by the higher position at early parenting ages of the red line representing the first generation) and are also more likely to live in multi-generational households as elders.⁵ But these children-in-households profiles do not account for the full difference in the weighted averages across the

⁵This is mostly “explained” by Hispanic ethnicity and family reunification policies that brought many older first generation immigrants to join their first generation children. Second generation persons have the lowest fertility, and in Figure 8-3 the whole curve for that generation is shifted a few years to the right compared with either the first or third-plus generation.

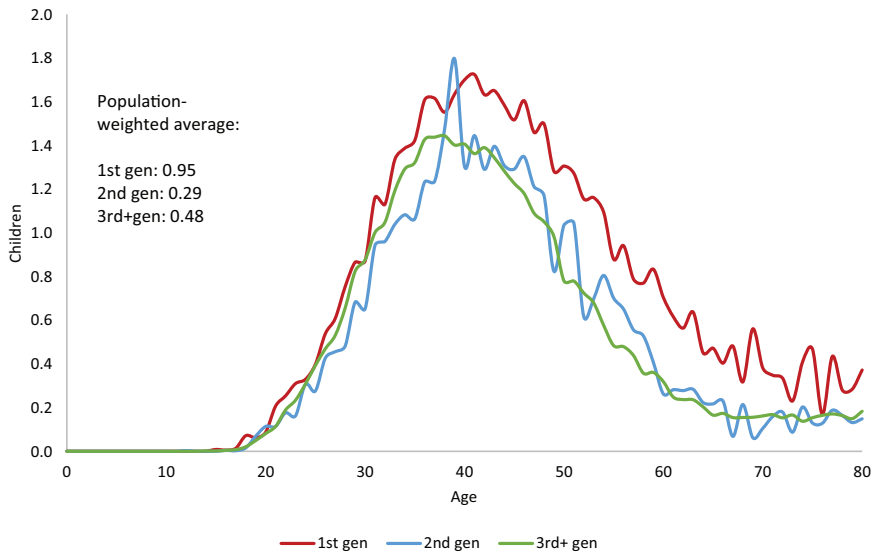


FIGURE 8-3 Average number of own children in household, by immigrant generation in 2013.

NOTE: Figures based on the Integrated Public Use Microdata Series (IPUMS)-imputed child variable, which includes biological and adopted children and step-children of any age or marital status. Second generation includes persons with one or two foreign-born parents. “Third-plus generation” includes children with parents who are second or higher generation since ancestors arrived in the United States.

SOURCE: Data are from the March 2013 Current Population Survey.

three generational categories; in fact most of the difference can be attributed to the much higher percentage of immigrants in the parenting age range relative to other populations. The average number of children for the first generation is expected to decrease as the group grows older due to slower replacement (with new immigrants arriving) than in the past.

Trends in Education, Employment, and Earnings by Immigrant Status

In addition to age and number of dependents, an individual’s education level and employment status are also important determinants of fiscal impact. Earnings and thus tax contributions tend to rise strongly with age and experience. They also rise with the level of education, and they track employment patterns in a predictable fashion. Benefits may vary inversely with education and employment to the extent that the safety net compensates need, but old-age entitlements also tend to rise with lifetime earnings and longevity, which are correlated positively with education.

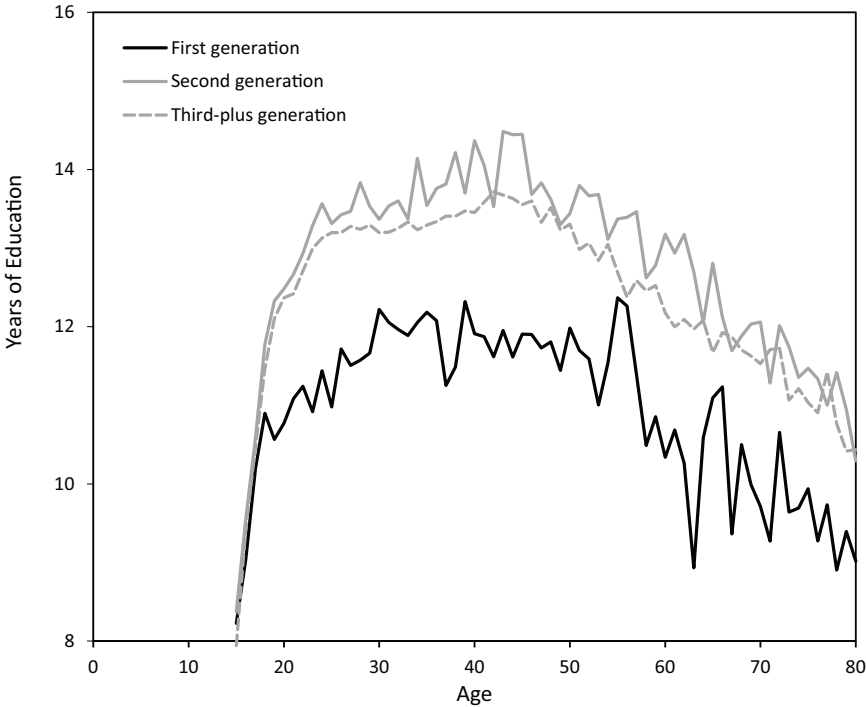


FIGURE 8-4 Average years of education across age by immigrant generation in 1994.

SOURCE: Data are from the March 1994 Current Population Survey.

Figure 8-4 shows average education levels across age by immigrant generation in 1994 as measured in the CPS.⁶ Average education declines for all groups beyond age 40 because earlier birth cohorts were less well educated. On average, first generation immigrants in 1994 had 1.5 fewer years of education than either the second or third-plus generations. Second generation education in 1994 was similar to but higher than that of the third-plus generation by 0.35 years; the children of immigrants tended to have higher education levels than other natives at every age.

Age-specific education levels have been changing over time for all U.S. residents as younger cohorts with more education have replaced older cohorts with less. Figure 8-5 depicts the same age patterns of educational attainment as Figure 8-4 but for immigrant generations in 2013. Each line is higher than it was in 1994 by roughly 1 year. The gap between the first

⁶We transformed educational attainment categories in the CPS into years of attainment using the crosswalk method suggested by Jaeger (1997).

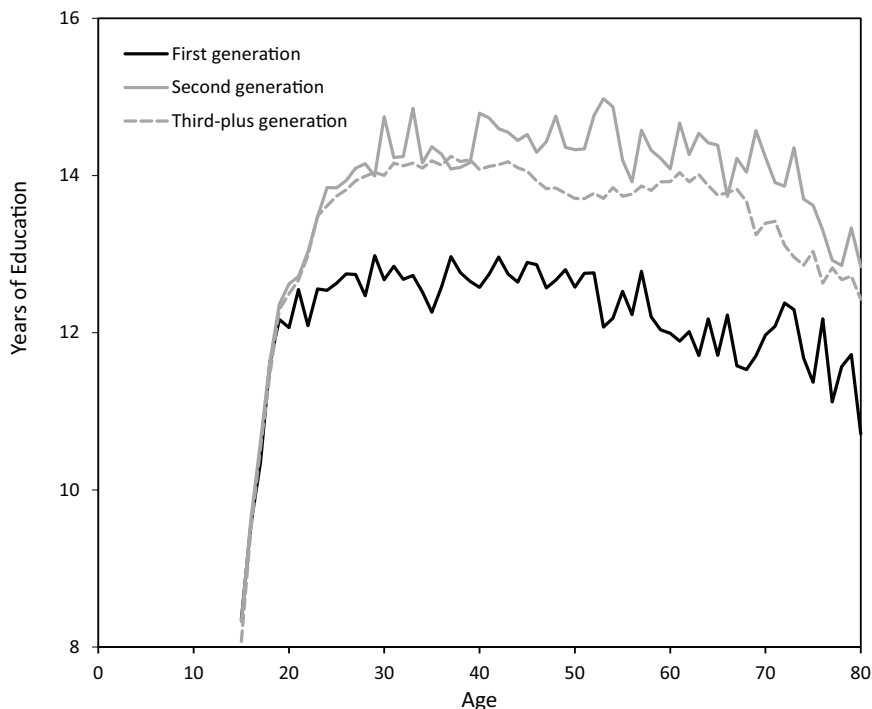


FIGURE 8-5 Average years of education across age by immigrant generation in 2013.

SOURCE: Data are from the March 2013 Current Population Survey.

and third-plus generations has narrowed slightly during this interval from 1.5 to 1.25 years, while the second generation maintained the same 0.35 year advantage over the third-plus generation.

Patterns in employment across age also vary by immigrant status and have shifted somewhat over time. Figure 8-6 shows that in 1994, employment for all groups followed the expected inverted-U shape with increasing age and that immigrants worked less, at a given age, than natives (i.e., the first generation worked less than the second and third) except at some typical retirement ages.⁷ On average, immigrants ages 20 and older were about 5 percentage points less likely to be employed than the second or third-plus generations. But by 2013, as depicted in Figure 8-7, that gap had

⁷As detailed in Chapter 3, the lower employment ratio of immigrants has historically been driven by lower participation of foreign-born women in the labor market. After an adjustment period, immigrant men often have employment ratios equivalent to natives and for some groups (e.g., low-skilled categories) they are considerably higher.

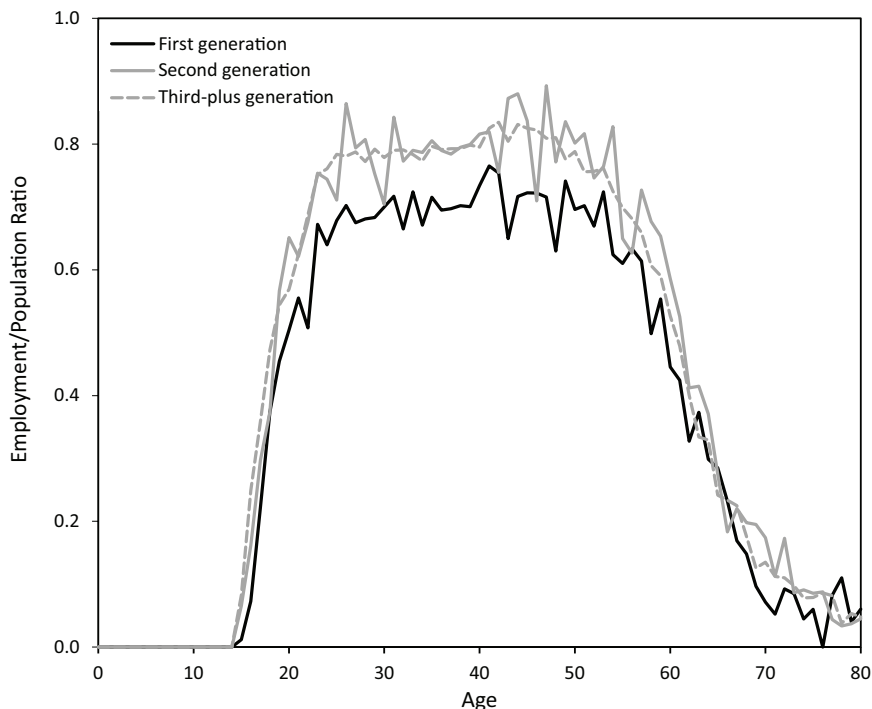


FIGURE 8-6 Employment-to-population ratio across age by immigrant generation in 1994.

SOURCE: Data are from the March 1994 Current Population Survey.

narrowed to 2 percentage points—mostly as a result of increasing employment of immigrant women (see Chapter 3), with lingering differences by immigrant status only under age 40. Employment rates by age among the second generation have remained broadly similar to those of the rest of the native-born population.

Although employment patterns of immigrants and natives have converged somewhat over time, if one adds the impact of wages the trends in relative earnings are more similar to trends in relative education, which display less convergence. Figure 8-8 shows large differences by immigrant generation in wage and salary income in 1995, measured in 2012 dollars and including those with zero earnings. On average, immigrants ages 20 and older in 1995 earned about \$5,500, or 23 percent, less than natives of comparable age. In contrast, the second generation earned roughly \$3,000, or 12 percent, more than the third-plus generation. Estimates vary, but an additional year of schooling may raise earnings by 10 percent (Card, 2001). Relative to that baseline, the immigrant earnings penalty is larger than

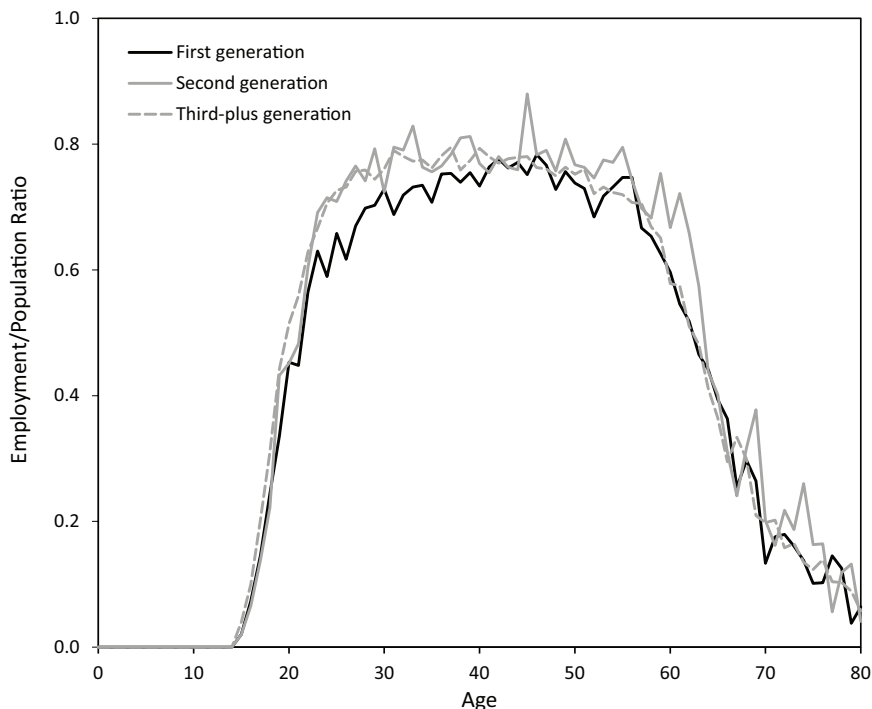


FIGURE 8-7 Employment-to-population ratio across age by immigrant generation in 2013.

SOURCE: Data are from the March 2013 Current Population Survey.

might be expected, given their education disparities, but the remaining difference could be explained by reduced employment rates or hours worked. The earnings advantage of the second generation relative to the third-plus generation appears larger than would be explained by educational differences alone.

Figure 8-9, which shows earnings by age and immigrant status in 2012, visually suggests the second generation had pulled further away from the third, which is true. Note that these estimates are the average wage and salary income over people who are working and who are not. If one takes the average wage and salary income for the peak earning ages of 35-55 years old, earnings grew by about 12-13 percent for first and second generation persons but only by 9 percent for third-plus generation persons. So compared to third-plus generation wage and salary earnings, the second generation is pulling ahead and the first generation is catching up.

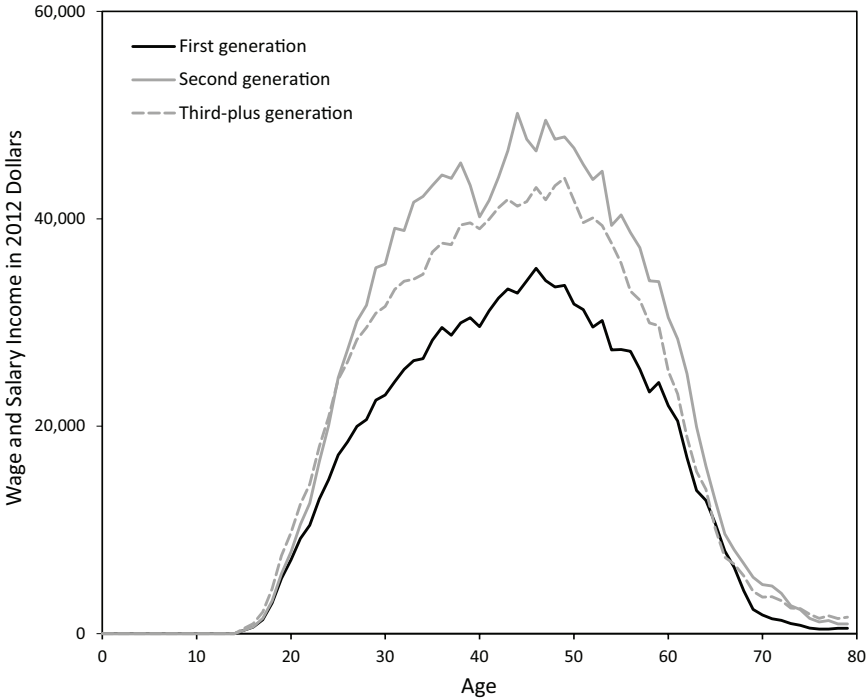


FIGURE 8-8 Wage and salary income in 2012 dollars by immigrant generation in 1995.

SOURCE: Data are from the March 1994-1996 Current Population Surveys.

Trends in Fiscal Flows by Age and Immigrant Generation

Now that we have considered many of the relevant characteristics of each generational group, we put this all together to examine fiscal flows. In this section we continue to take the individual as the unit of analysis, attributing tax receipts and benefit cost flows—which, when combined, yield net fiscal impacts—to each individual across the full age spectrum. This approach is useful for showing how fiscal flows vary by age and, controlling for age, across generational groups. However, such an approach disregards that children and other dependents are linked to independent adults, often from a different generational group. For this reason, in the section after this one, our analysis shifts focus by redefining generational groups to include dependents; so, for example, the first generation immigrant (the foreign-born) group includes foreign-born individuals ages 18 and older, *plus their dependent first and second generation children* (see Box 8-2). For now, in

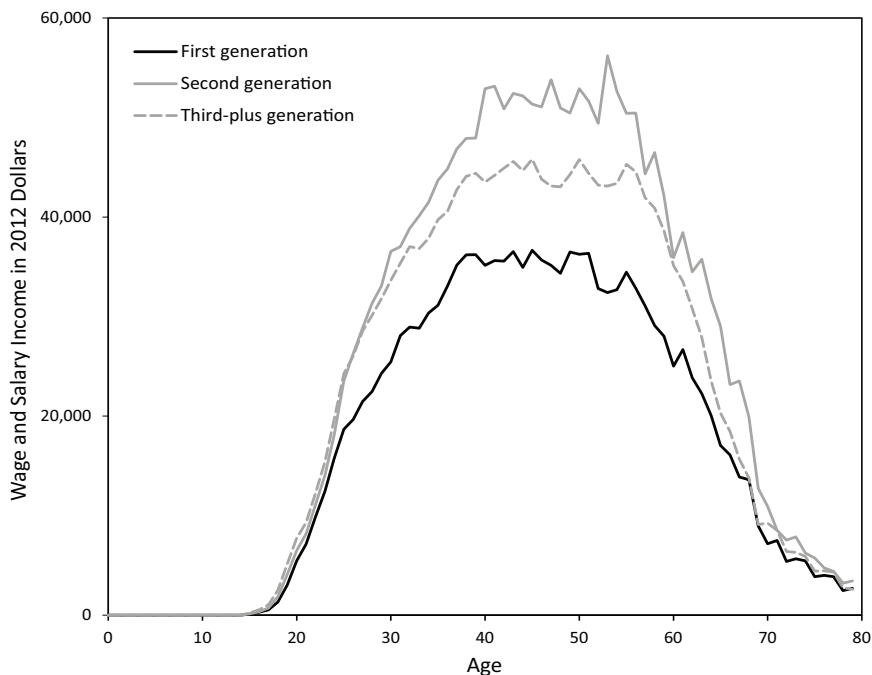


FIGURE 8-9 Wage and salary income in 2012 dollars by immigrant generation in 2012.

SOURCE: Data are from the March 2011-2013 Current Population Surveys.

this section, we continue to look at the fiscal flows associated with individuals without taking their dependents into account.

The cost of educating the young dominates fiscal flows early in the life cycle; contributions in the form of taxes paid dominate the middle years, and the cost of health care dominates the later years. This pattern is illustrated for first generation immigrants in Figure 8-10. Given that taxes and fiscal transfers in the United States are largely based on earnings, one would expect the persistent earnings disadvantage of immigrants and the persistent advantage of the second generation to be mirrored in patterns of tax payments and program utilization. This is certainly true in the case of taxes paid to all levels of government, which is shown in Figure 8-11 for the year 1995 and in Figure 8-12 for the year 2012. In both years, tax contributions strongly track the age profiles of wage and salary income shown in Figures 8-8 and 8-9 up to retirement ages. Because retirees continue to pay taxes on wealth and on some forms of income, their tax contributions remain positive even after their earnings cease. Immigrants ages 20 and

BOX 8-2
Definitions of Dependent and Independent Persons

Dependent: For the purpose of the panel's estimates, we consider dependents to be anyone: (1) under age 18, (2) ages 18 through 21 and in high school full time, or (3) ages 18 through 23 and in school full time or part time with income below half of the poverty level for one person. We also consider single individuals who are ages 18 through 23 and not in school but with income below half of the poverty level (for one person) who live with at least one independent person (typically a parent) as a dependent person; 1.2 percent of the population are in this category and they are treated as dependents but are not assigned education costs.

Independent person: Any person (most of whom are adults ages 18 and older) who is not a dependent child. We consider individuals ages 18 through 23 who are in school and working more than part time to be independent regardless of income level.

There are a few exceptions to the aforementioned criteria. If a person is married, he or she is considered independent irrespective of age. If a person is single with children and there are no family members other than children in the household, and the person is earning above half the poverty level, the person is considered independent. If there is a household with no members satisfying the above criteria for being independent, we consider any household member with income above the average amount in the household and age 18 and older (or age 16 and older if all in the household are under 18) to be the independent person(s) in the household.

older contributed about 23 percent less than the third-plus generation⁸ in both years, while the second generation contributed 12 percent more than the third-plus in 2012 versus 10 percent in 1995.

Comparison of the data shown in Figures 8-8, 8-9, 8-11, and 8-12 also reveals relatively moderate increases over time in tax contributions relative to the growth in earnings. Between 1995 and 2012, per capita taxes paid rose 10 percent for immigrants, 13 percent for the second generation, and 11 percent for the third-plus generation. This is about half as fast as the growth in earnings during this period; if all taxes were levied on earnings, it would imply reductions in average tax rates of about 10 percent as well. One can see by comparing the graphs in Figures 8-11 and 8-12 that all of

⁸Again, throughout this report, "third-plus generation" refers to all persons in the third and higher generations after immigration. In short, anyone resident in the United States who is not first or second generation is in the "third-plus generation" as defined for this chapter.

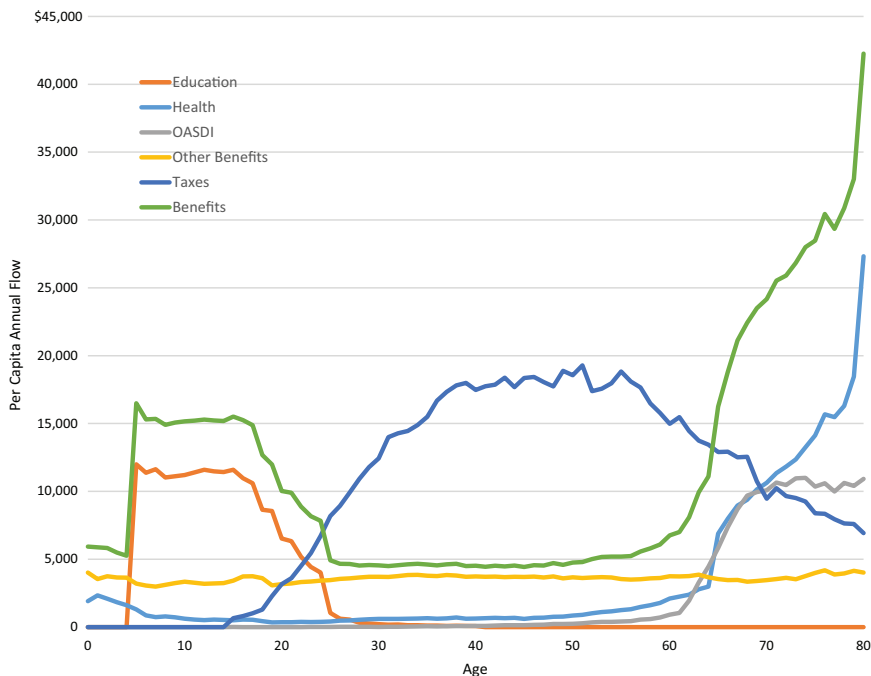


FIGURE 8-10 Fiscal flows, first generation immigrants to the United States, 2012. NOTE: All public spending is included, *except* pure public goods (defense, interest on the debt, subsidies). The “Health” category includes Medicaid and Children’s Health (CHIP) programs. Data are Current Population Survey (CPS)-based per-capita age schedules, smoothed and adjusted to National Income and Product Accounts (NIPA) annual totals. SOURCE: Data are from the March 2011-2013 Current Population Surveys.

the increase in inflation-adjusted tax contributions came from increases at older ages.

In contrast to the tax picture, per capita government benefits have risen in real terms across all age and nativity groups at an average rate that was slightly faster than the growth in earnings. This is largely attributable to the influence of current economic conditions compared to those in the 1990s: employment and wages have grown slowly in the wake of the Great Recession, while federal spending was increased to respond to the crisis. While the levels may have changed, Figures 8-13 and 8-14 (which attribute program costs of education at the age points of the children being edu-

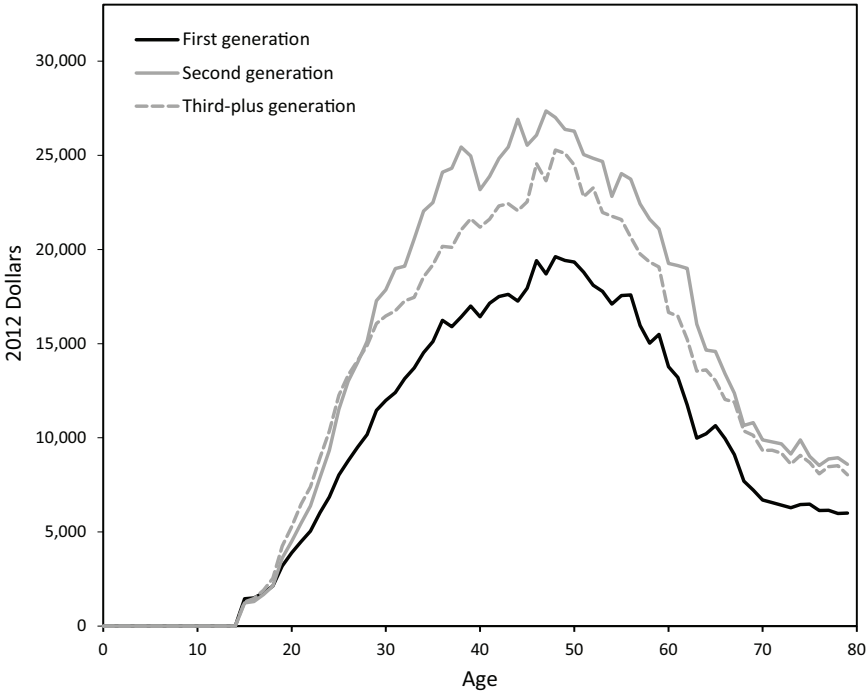


FIGURE 8-11 Total taxes paid per capita in 1995 at all levels of government, by age and immigrant generation.
SOURCE: Data are from the 1994-1996 March Current Population Surveys, normalized to program totals.

cated⁹) show that little change has occurred in the shape of the age profiles of benefits over time, nor has there been much change in the distribution of benefits across groups defined by immigrant status. But each age profile has risen, with growth most apparent (by comparing the lines in Figures 8-13 and 8-14) at the youngest and oldest ages.

Growth in per capita benefits from 1995 to 2012 was most rapid for those under age 20, where outlays increased 31 percent for immigrants, 38 percent for the second generation, and 33 percent for the third. But the second-most rapid rate of growth in benefits was actually among individuals of working ages, 20 to 64, which is not easy to see in the figures.

⁹For other programs where the benefit depends on household size or that require the presence of children to qualify, the benefit is allocated equally to all members of the family unit receiving the benefit. These programs include AFDC, other welfare programs, and the Earned Income Tax Credit (EITC).

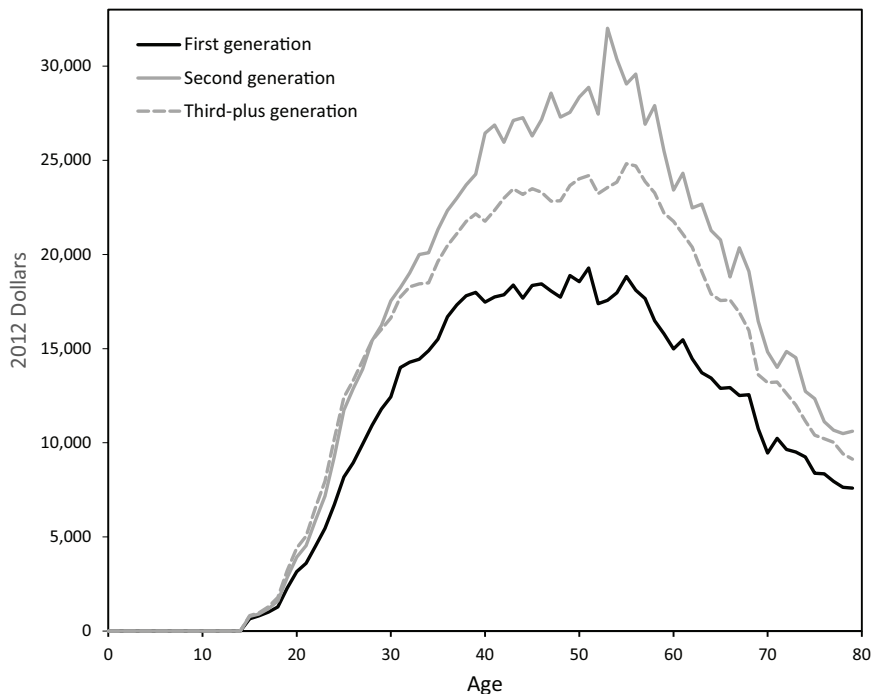


FIGURE 8-12 Total taxes paid per capita in 2012 at all levels of government, by age and immigrant generation.
SOURCE: Data are from the 2011-2013 March Current Population Surveys, normalized to program totals.

Benefits absorbed in the working-age range rose 33 percent for immigrants, 34 percent among the second generation, and 32 percent for the third-plus generation. Increases in benefit *amounts* at these ages were considerably less than the increases in benefit *amounts* for other age groups because benefits started from a smaller base. Benefit levels in retirement were already the highest of any age group, and they increased the most in dollar terms during this period. But the *percentage* growth in benefits for the retirement age group was only 16 percent for immigrants, 12 percent for the second generation, and 18 percent for the third-plus generation.

Another noteworthy aspect of these trends is that per capita benefits absorbed by the third-plus generation exceed those for the first and second

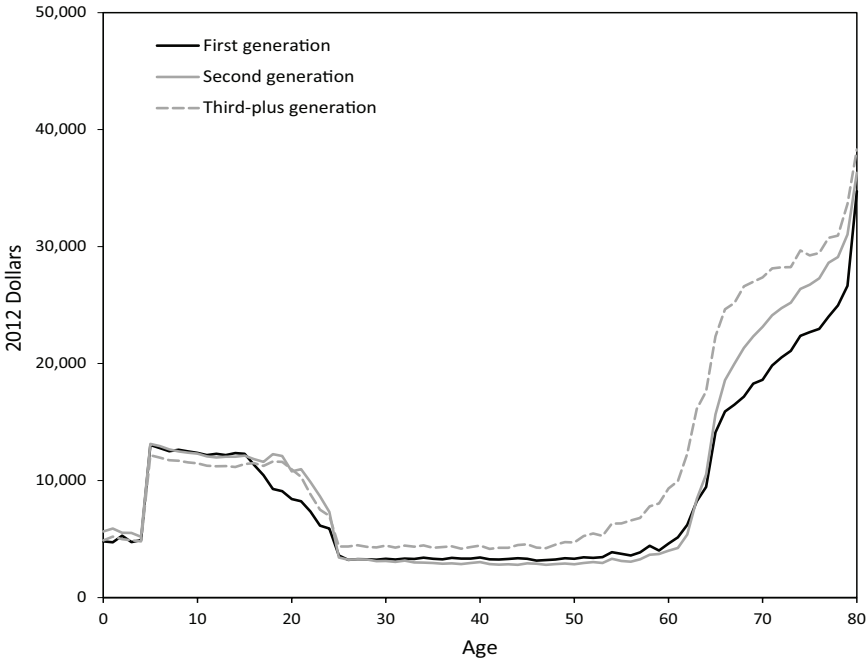


FIGURE 8-13 Total per capita benefits received in 1995 at all levels of government, by age and by immigrant generation.
SOURCE: Data are from the 1994-1996 March Current Population Surveys, normalized to program totals.

generations at all ages past the typical years of college attendance.¹⁰ To the extent that receipt of some government benefits is contingent on years spent in the country, some of this is to be expected. But it is striking that the U.S.-born second generation absorbs fewer benefits than other natives at all such ages in both 1994 and 2012. The underlying patterns of program use contributing to differential benefit receipt by native-born children of immigrants and other natives at adult ages are primarily twofold. Up until about age 50, the third-plus generation uses means-tested programs such as Medicaid, unemployment benefits, food stamps, and the Earned Income

¹⁰This finding is consistent with those in the peer-reviewed research literature. Sevak and Schmidt (2014), for example, link Health and Retirement Study survey data to restricted Social Security administrative data to show that immigrants have lower levels of benefits than do natives. The amount included here as state and local retirement benefits includes defined benefit plans but not defined contribution plans. The latter are typically not categorized as a public benefit and should be distinguished from payments out of tax revenues.

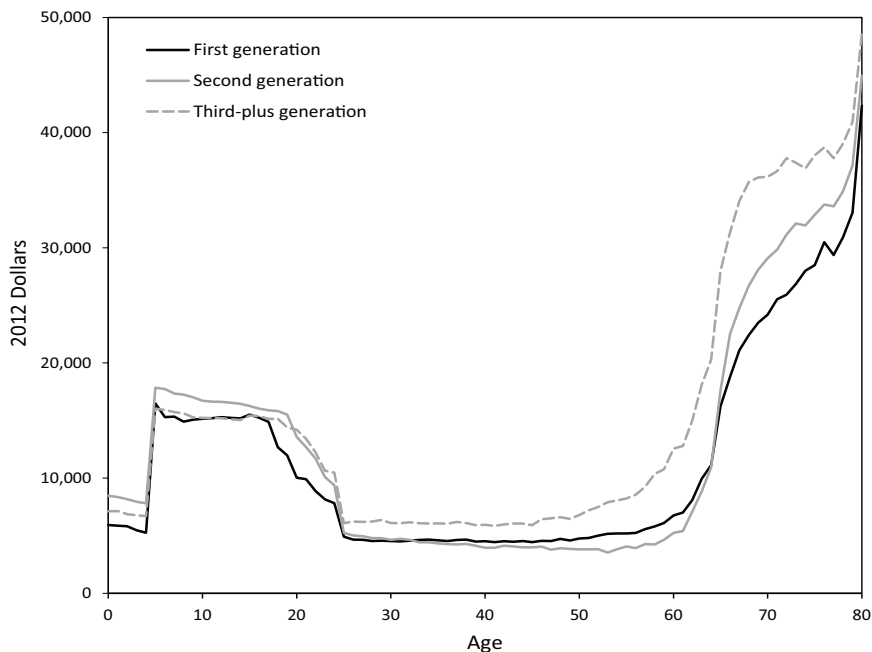


FIGURE 8-14 Total per capita benefits received in 2012 at all levels of government, by age and by immigrant generation.

SOURCE: Data are from the 2011-2013 March Current Population Surveys, normalized to program totals.

Tax Credit (EITC) more intensively than does the second generation. After age 50, the third-plus generation absorbs more old-age benefits, such as Social Security pensions and disability payments, federal retirement payments, and state and local retirement benefits.

These patterns of program use are also revealed in Figure 8-15, which shows receipt of benefits associated with federal old-age support programs (Social Security, Medicare, Medicaid payments to nursing homes, federal worker retirement, and other programs), and in Figure 8-16, which shows federal means-tested programs for the poor (the rest of Medicaid, Supplemental Security Income, unemployment insurance, food stamps, the EITC, and other support); data are shown for 2012 in both figures. Old-age benefits are nonzero prior to retirement because of the inclusion of disability insurance, but they rise rapidly for all groups after age 62. Immigrants receive less Social Security than natives because they have typically paid less into the system or have immigrated after working ages. Prior to age 62, the excess spending generated by the third-plus generation relative to the second generation is

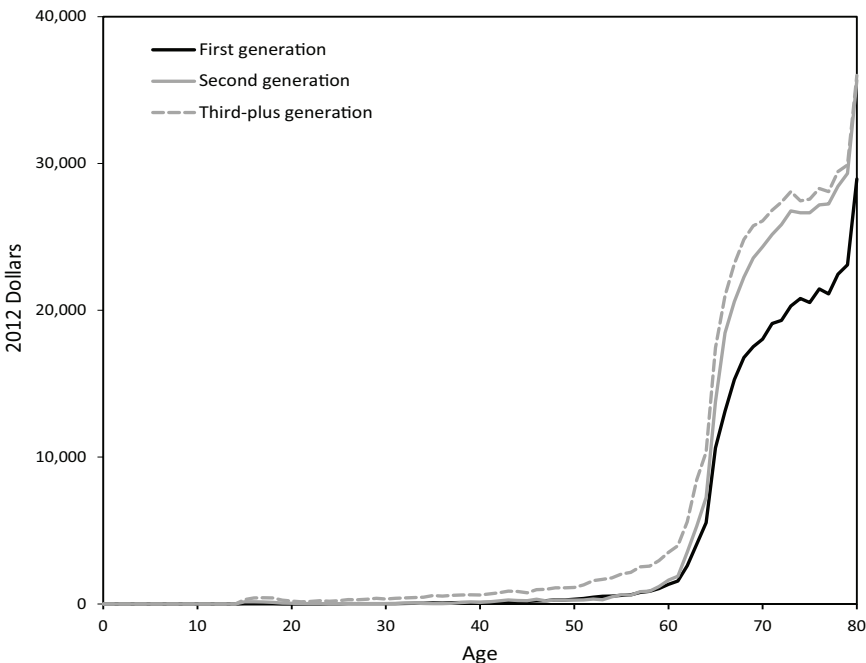


FIGURE 8-15 Federal old-age benefits received per capita in 2012, by age and immigrant generation.
SOURCE: Data are from the 2011-2013 March Current Population Surveys, normalized to program totals.

due to federal disability insurance, whereas after age 62 it is attributable to federal retirement benefits (i.e., Social Security), which rise steeply with age.

For working-age individuals, the means-tested federal antipoverty benefits tracked in Figure 8-16 show the third-plus generation as receiving the highest per capita benefits. At young ages, per capita benefit receipt is highest for the second generation (the children of immigrants). A similar conclusion can be drawn from the data on program participation rates. As detailed in Chapter 3, U.S.-born children with two immigrant parents have higher program participation rates than those with one or two native-born parents because they are likely to live in households with lower than average incomes and, since they are U.S. born, they are eligible for various safety net programs. At the oldest ages, the first generation absorbs the most means-tested antipoverty benefits on a per capita basis.¹¹

¹¹Of course, the aggregate expenditure amounts are greatest for natives because they are by far the largest group.

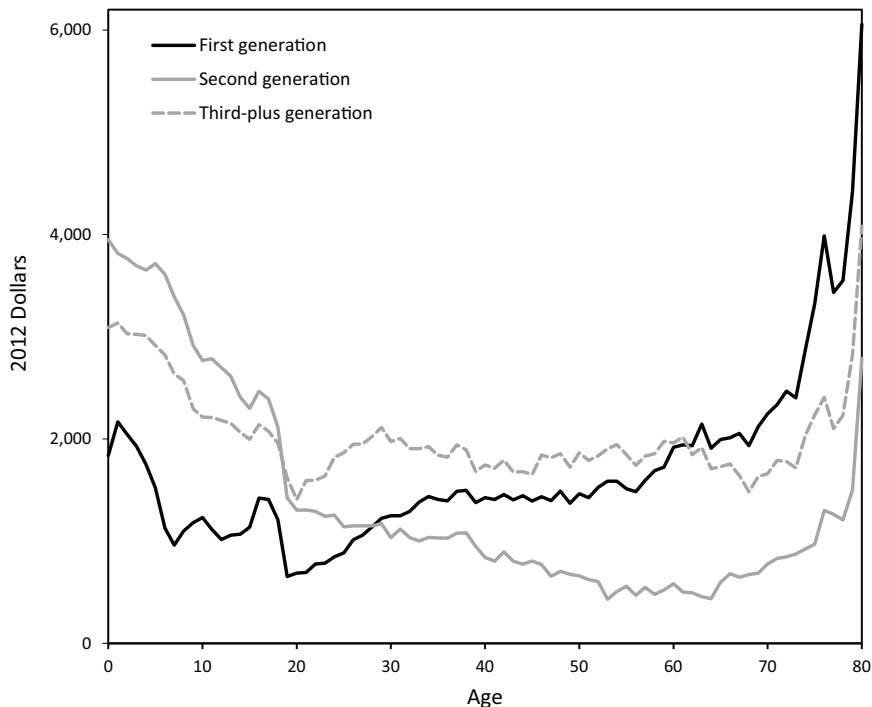


FIGURE 8-16 Federal means-tested antipoverty benefits received per capita in 2012, by age and immigrant generation.

SOURCE: Data are from the 2011-2013 March Current Population Surveys, normalized to program totals.

Medicaid and Supplemental Security Income, which are included here and are typically characterized as means-tested, effectively serve as substitutes for Medicare and Social Security for older immigrants, many of whom do not qualify for those old-age entitlements because of abbreviated domestic work histories. Differences by nativity in usage of means-tested programs at working ages are partially mechanical in nature; recent arrivals do not qualify for many of these programs initially. But program eligibility cannot explain the differences between the second and third-plus generations during working ages, so these differences are likely instead driven primarily by more favorable socioeconomic status among the second generation.

Net fiscal impacts by age and immigrant status are depicted for 1995 and 2012 in Figures 8-17 and 8-18, respectively. These graphs reveal that the second generation has had a more positive net fiscal impact at almost every age than either the first or third-plus generation. Individuals of the

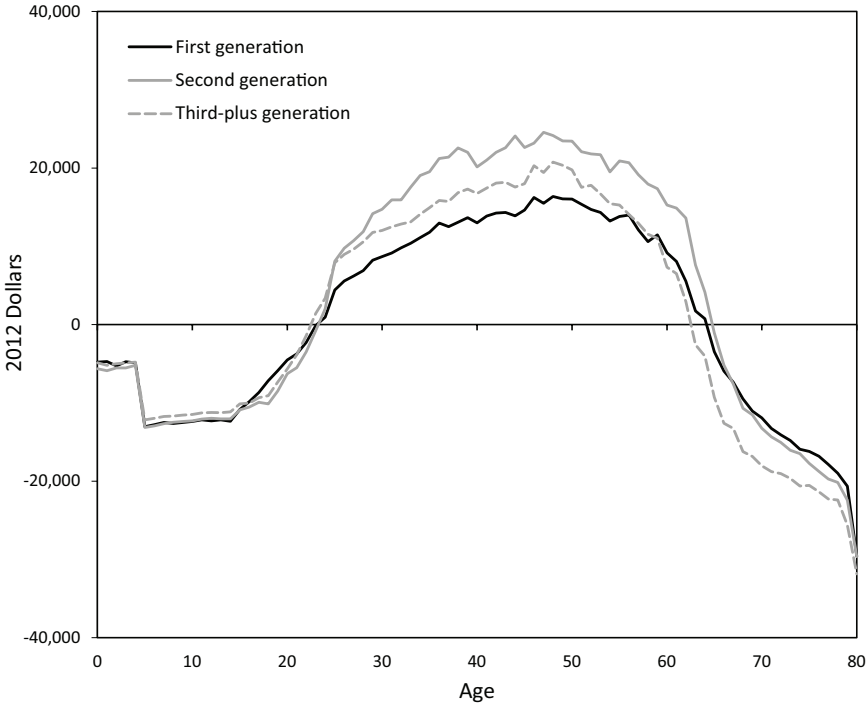


FIGURE 8-17 Net fiscal impact in 1995, per capita, including all levels of government, by age and immigrant generation.
SOURCE: Data are from the 1994-1996 March Current Population Surveys, normalized to program totals.

second generation contribute considerably more in taxes during working ages than either of the other generational groups, although they also absorb slightly more benefits at younger ages. By contrast, at least prior to around age 60, the net fiscal impact of the first generation has been consistently less positive than the other two generational groups.

Although the third-plus generation contributes more in taxes during working ages than does the first generation, and thus its net fiscal impact during working ages is more positive than immigrants, this pattern switches in retirement. In old age, the third-plus generation has consistently been more expensive to government on a per capita basis than either the first or second generation, despite the higher per capita utilization of means-tested benefits in old age by the first generation.

Net fiscal impacts at the state and local level by age and immigrant status (not shown, but based on the data sources cited for the figures)

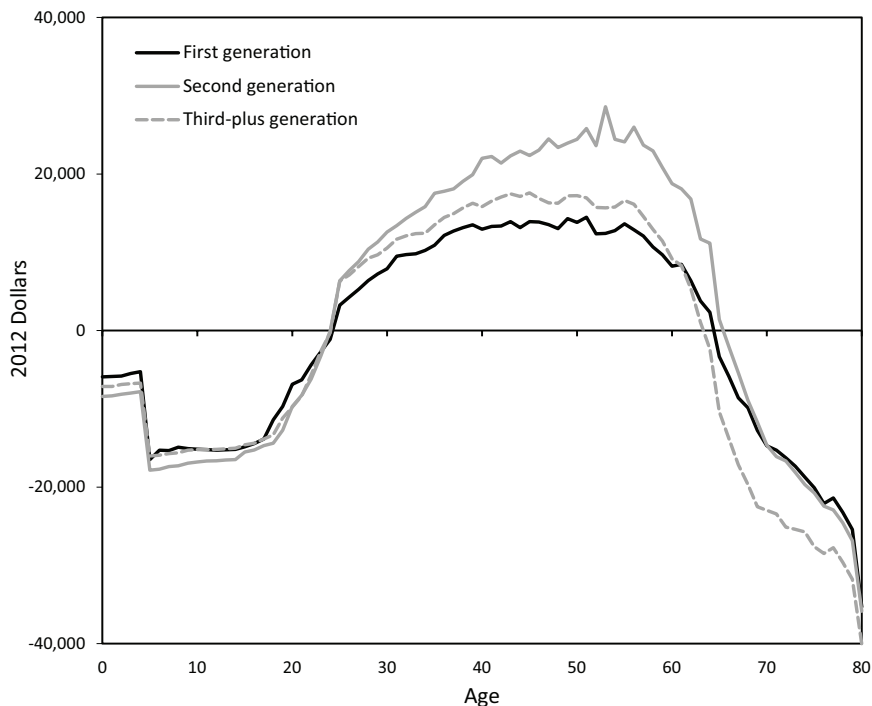


FIGURE 8-18 Net fiscal impact in 2012, per capita, including all levels of government, by age and immigrant generation.
SOURCE: Data are from the 2011-2013 March Current Population Surveys, normalized to program totals.

broadly conform to these patterns, with larger deficits at younger ages for the first and second generations, followed by larger surpluses at working and older ages. Federal net fiscal impacts (not shown in the figures) are also similar in pattern to those illustrated but, because transfers to the young are primarily channeled through states and localities, the negative net impacts for individuals positioned in the pre-working ages of the life cycle are smaller (in absolute terms).

Annual Fiscal Impacts by Immigrant Status

In this section, the panel considers the fiscal impact of different population subgroups defined by immigrant status. The total net fiscal impact of a subpopulation depends on its age structure, depicted earlier in this chapter, and on the age profile of net fiscal impacts, as presented in the preceding

discussion. Because U.S. subpopulations identified by nativity are so different in size, their aggregate fiscal impacts also vary widely in magnitude, which complicates comparisons. Thus, it is useful to recast the net fiscal impacts of immigrant groups either on an average (per capita) basis, as was done above, or as the ratio of government receipts contributed (taxes paid) to expenditures on benefits received, as was done by Dustmann and Frattini (2014). When this “fiscal ratio” is greater than unity, the group pays more in taxes than it receives in benefits, whereas a fiscal ratio less than unity indicates that the group pays less in taxes than it receives in benefits. However, this approach does not control for a group’s age structure, which we have seen is quite important—this is a topic to which we return later in the chapter when we examine the fiscal impact of the foreign born and native born controlling for their characteristics.

We begin by examining the annual fiscal impacts of all age cohorts of three broadly defined generational groups as identifiable in our pooled March CPS data samples for the 1994-2013 analysis period. Our definitions of first, second, and third-plus generation are unchanged from earlier in the chapter. However, for the analysis here—and in contrast to the analyses up to this point in the chapter—we have created groupings that are partially mixed. The first group consists of first generation immigrants (the foreign-born) ages 18 and older, *plus their dependent first and second generation children* (see Box 8-2). The second group consists of independent individuals (those ages 18 and older) in the second generation *plus their dependents (who typically are third generation by nativity status)*. The third group consists of independent individuals in the third and higher generations, plus their dependents.¹² The rationale, in this exercise, of grouping dependents with their parents is so that the full fiscal impact created by an immigrant or a native born person (which includes their family members, or other dependents) can be estimated for a given year; without the presence of the independent persons to which they are linked, dependents could not factor into the fiscal picture. Later in this chapter, we analyze the impact of these same three generational groups on fiscal impact, adjusting for age, education, and other characteristics; this analytical framework allows for assessment of the net fiscal impacts, at the federal and state levels of government, of these first and second-generation groups separately, in comparison to the third-plus generation group, specified as the reference group.

Associating dependent children with an independent individual responsible for them entails assigning the children to the generational group

¹²For all three groups, dependent children—identified at the individual level in the CPS data—are included in their parents’ generational group. Therefore, some second generation individuals (i.e., dependent children) appear in the first generation group; the same logic applies to the membership of the groups labeled “second generation” and “third-plus generation.”

defined by the nativity status of that individual (typically their parent(s)); this is done for the dependent children of independent individuals in each of the generational groups. Dependent children are assigned to the parental generation if one or more independent parents are present in the household.¹³ If there are no parents in the household, then the generational group of the oldest co-resident independent relative is assigned. Defining generational groups in this way attributes the costs to governments associated with dependent children—most notably, in terms of magnitude, public expenditures on education—to the generation of a parent or relative responsible for raising the child.¹⁴ Of course, dependent children of any population subgroup, foreign-born or native-born, generate a net fiscal cost (they are not yet working and they need to be educated). As expected, and as shown quantitatively below, the fiscal costs associated with dependent children to some extent counterbalance the positive fiscal impact for the first generation (see Figures 8-17 and 8-18) created by the fact that, during the analysis period at hand, this generation was disproportionately of working age and hence paying taxes (refer to Figures 8-1, 8-2, 8-11, and 8-12).

Table 8-1 reports subpopulation size, per capita fiscal impacts, and fiscal ratios for these groups of independent-persons-plus-dependents at different levels of government in 1994 and 2013. The cost of public goods is assigned on an *average cost* basis as specified in scenario 1 (defined in Box 8-1, above); results for the alternative scenarios are discussed later in the chapter. Recall, that these may be considered relatively conservative estimates because the addition to government costs associated with public goods (like national defense) created by one addition (or a small number of additions) to the population may be close to zero. The calculations reveal that the population group consisting of immigrants (first generation) and their dependent children has a lower fiscal ratio than either of the groups composed of native-born independent individuals and their dependent children. The overall fiscal ratio of the second generation (independents plus their dependents) is more similar to that of the first generation group in 1994 but more similar to that of the third-plus generation group in 2013; we provide an explanation of this observation below. A major source of the overall differential between the first generation group and the two native-born groups originates from the considerably lower fiscal ratio at the state

¹³It is possible for a dependent to be associated with independent persons in different generational groups (e.g., a child of a first generation mother and third-plus generation father). In order to sort the group of children with this ambiguous generational identification, a randomly selected half are assigned to the mother's generation and the other half to the father's. This is done instead of splitting the flows of each child to avoid ending up with a group-weighted per capita flow that does not match the total population per capita flow.

¹⁴In those few cases where there was no independent co-resident parent, the associated independent person was usually a grandparent.

TABLE 8-1 Net Per Capita Fiscal Impacts, in 1994 and 2013, of First Generation Immigrants and Their Dependents, Second Generation Native-born Independent Individuals and Their Dependents, and Third-plus Generation Native-born Independent Individuals and Their Dependents, by Level of Government

	1st Generation and Their Dependents (population: 29.9 million)			2nd Generation and Their Dependents (population: 20.8 million)			3rd Generation and Their Dependents (population: 212.2 million)		
	Outlays	Receipts	Receipts/ Outlays	Outlays	Receipts	Receipts/ Outlays	Outlays	Receipts	Receipts/ Outlays
1994									
Federal	8,408	5,769	0.686	13,853	8,022	0.579	8,996	7,734	0.860
State and Local	5,104	3,215	0.630	4,601	4,659	1.013	4,621	3,901	0.844
Total	13,511	8,985	0.665	18,454	12,681	0.687	13,617	11,635	0.854
	1st Generation and Their Dependents (population: 55.5 million)			2nd Generation and Their Dependents (population: 23.3 million)			3rd Generation and Their Dependents (population: 237.3 million)		
	Outlays	Receipts	Receipts/ Outlays	Outlays	Receipts	Receipts/ Outlays	Outlays	Receipts	Receipts/ Outlays
2013									
Federal	9,767	7,117	0.729	13,093	9,495	0.725	12,050	9,473	0.786
State and Local	6,141	3,769	0.614	6,101	5,039	0.826	5,844	4,813	0.823
Total	15,908	10,887	0.684	19,194	14,534	0.757	17,894	14,286	0.798

NOTE: “Dependent” and “independent” are defined as in Box 8-2. Outlays include all government spending, including interest payments and public goods, which are allocated equally to all groups on a per capita basis. Population counts are the sum of independents and dependents in each group. Data are from March Current Population Surveys. Estimates are for scenario 1 (see Box 8-1) which assigns the average costs of public goods to new immigrants, as opposed to the marginal cost, and includes interest payments.

and local level of government for the former group whose adult members, during the analysis period, were more likely to be of parenting age and who also experienced higher fertility rates.¹⁵ These differentials in state- and local-level fiscal impacts largely reflect differences in the groups' total cost of educating dependents.¹⁶ In the longer term, these dependent children will grow up to be contributing adults and thus these educational expenditures may reasonably be considered an investment in their future productivity.

The first generation group displays a lower fiscal ratio than does the third-plus generation group at the federal level. This fiscal effect, and a portion of the fiscal difference at the state and local level as well, reflects the lower average education levels—and, related to these, the lower wages and employment—of the first generation independent persons compared to the second and third-plus generation independents in the other two groups (see the cross-sectional results presented in the previous section). Interestingly, the fiscal ratios in Table 8-1 at the federal level actually rose for the first and second generation groups between 1994 and 2013, whereas they fell for the third-plus generation group. To some extent, this may reflect new programs and expansion of others (such as EITC) that some native-born individuals are eligible for and some immigrants are not, as well as declining fertility rates among immigrants. But the trend is mainly driven by the aging of the native-born population. In 2013, the third-plus generation (as defined by nativity status) population included a higher proportion of elderly persons than it did in 1994. The second generation population, in contrast, had a relatively much higher concentration of individuals in the fiscally expensive retirement age groups in 1994 than in 2013 (refer back to Figures 8-1 and 8-2). As described in Chapter 2, at the beginning of the 1994-2013 analysis period, a large portion of the second generation consisted of the children of earlier heavy waves of immigrants who arrived around the beginning of the 20th century and were thus an older group. The elderly are, of course, associated with increased federal outlays. By 2013, more of the children of newer waves had reached adulthood and were thus more heavily represented among second-generation independent persons, reducing the average age of this group.

Readers will note that the figures in Table 8-1 translate into quite large fiscal shortfalls *overall*—the fiscal ratio (Receipts/Outlays columns) falls well below 1.0 for *all three* groups. For 2013, the 55.5 million first generation independent persons and their dependents, 23.3 million second

¹⁵We stress again that these are averages; the foreign-born are an extremely heterogeneous group along many of the dimensions being considered here, and consequently they are also heterogeneous in their per capita fiscal ratios.

¹⁶The per-child cost of education in our estimates is the same for all groups. The differences referenced here are due to differences in the average number of dependent children per independent individual in the three groups.

generation independent persons and their dependents, and 237.3 million third-plus generation independent persons and their dependents yield a total fiscal shortfall of \$1,243 billion. The total fiscal burden is \$279 billion for the first generation group (average outlays of \$15,908 minus average receipts of \$10,887, multiplied by 55.5 million individuals), \$109 billion for the second generation group (average outlays of \$19,194 minus average receipts of \$14,534, multiplied by 23.3 million individuals), and \$856 billion for the third-plus generation group (average outlays of \$17,894 minus average receipts of \$14,286, multiplied by 237.3 million individuals). Under this scenario, the first generation group accounts for 17.6 percent of the population but 22.4 percent of the total deficit. In contrast, the second generation group accounts for just a slightly higher share of the total deficit (8.7%) than its share in the population (7.4%). The third-plus generation group, with 75 percent of the population, accounts for just 68.9 percent of the deficit. Note that, while the fiscal shortfall for the average person in the first-generation group (i.e., the per capita shortfall) was larger than was the per capita shortfall in either native-born group, the shortfall for the latter two groups would have been larger without the presence of the first generation group. This is because federal expenditures on public goods such as national defense (assigned to immigrants on an average cost basis in scenario 1) would have to be divided among a smaller population of second and third-plus generation individuals.

Cross-checking against alternative sources indicates that, although the overall deficit numbers in Table 8-1 are large, the totals (for all three groups) are consistent with actual deficit figures in the National Income and Product Accounts for the federal and state-and-local level budgets combined: The difference in 2013 between total taxes and contributions for government social programs (\$4,332 billion) and total expenditures including all public goods (\$5,584 billion) was \$1,252 billion. The consolidated deficit for that year was actually smaller by about \$400 billion because, on the revenue side, government asset income (which immigrants are assumed to not pay) and current transfer receipts (mainly fines and fees) are not included in the panel's estimates.

To elaborate on trends in net fiscal impacts since *The New Americans* (National Research Council, 1997), Figure 8-19 plots the total fiscal ratio of receipts to outlays for the three generation groups, as defined for Table 8-1, across all years since 1994. Crucially, there is no correction made here (or in Table 8-1) for different age distributions across groups and over time. The net impact of each group grows more positive during the boom of the late 1990s before falling and rising during and after the mild recession of 2001, then falling and rising again during and after the financial crisis of 2008

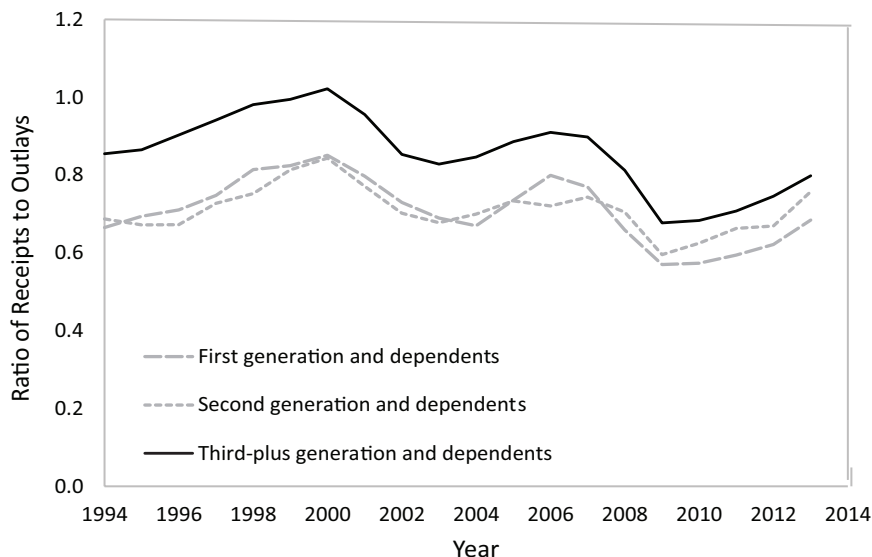


FIGURE 8-19 Ratio of receipts to outlays for first generation and native-born groups as defined for Table 8-1.

SOURCE: Data are from the 1994-2013 March Current Population Surveys normalized to program totals. Estimation is for scenario 1, which assigns the average costs of public goods including interest payments to both immigrants and the native-born.

which precipitated the Great Recession.¹⁷ In addition to this cyclical variation, a noteworthy pattern here is the reduction in the gap between the first and second generation groups, represented by the two dashed lines, and the third-plus generation group, shown by the solid line. As the Table 8-1 data show, the second generation group in particular becomes quite similar by 2014 to the third-plus generation group.

While all part of the same story, the data representations in Figure 8-19 and in Table 8-1 reveal determinants of the fiscal impact of generational groups that are quite distinct from those previously captured in Figures 8-5 through 8-12. The earlier figures show the second generation (including independents and dependents of that generation together) exceeding even the third-plus generation along a number of dimensions, including years of education, per capita wage and salary income, and per capita taxes paid.

¹⁷The recession of the early 2000s began in March 2001 and ended in November 2001; the Great Recession began in December 2007 and ended in June 2009. These dates are determined by the National Bureau of Economic Research's Business Cycle Dating Committee at <http://www.nber.org/cycles/cyclesmain.html> [November 2016].

However, the data in the earlier figures provide estimates of these variables for individuals in each generation group *by age*, regardless of calendar year. In contrast, Figure 8-19 and Table 8-1 present data in a way that prominently reflects group demographic composition and changes therein over the 1994-2013 analysis period. In Table 8-1 and Figure 8-19, the comparatively low fiscal ratios for the second generation group, relative to the third-plus generation group, in the beginning of the period reflect the former group's comparatively high concentration in the (fiscally expensive) retirement ages of the distribution at that time. The closing gap in fiscal ratios between the generations shown in Figure 8-19 reflects the more recent profile, which is now younger for the second generation, as well as the relative aging of the third-plus generation into retirement. In other words, the second generation has been gaining something of a demographic advantage from a fiscal perspective as the composition of its adult population has become younger while the third-plus generation has been growing older. The aging of the third-plus generation has also reduced the gap in fiscal ratios between the first and third-plus generation groups. The elderly are associated with increased federal outlays regardless of nativity status. The higher number of dependent children among the first generation, and the associated fiscal costs particularly at the state and local levels, offset this reduction of the fiscal ratio gap between the first generation group and the native-born groups somewhat. This interpretation of the relative fiscal impacts of the first, second, and third-plus generation groups (as defined for Table 8-1) becomes clearer below, where fiscal impacts of these groups are compared while controlling for age and other characteristics. The more favorable fiscal situation of the second generation group compared to the first is germane to a consideration of the impact of immigration since many people think of this group as part of the immigrant stock.

We now turn to the set of alternative scenarios defined in Box 8-1 above (following the approach of Dustmann and Frattini, 2014). Table 8-2 repeats the estimates for 2013 under scenario 1 (from the lower panel of Table 8-1) and then presents the estimates for 2013 under the seven alternative scenarios. For each scenario, the changes from scenario 1 are applied to all members of a defined generational group. For example, in the subset of scenarios developed to assess changes in magnitude when assuming a marginal-cost allocation of public goods (scenarios 5 through 8), instead of the average cost allocation in scenarios 1 through 4, the marginal-cost allocation is applied to all members of the first generation group, including the second-generation dependent children of first generation independents. In these scenarios, the total net fiscal impact of the first generation group becomes much more favorable, as it must mathematically. In each of scenarios 5 through 8, the total fiscal ratio for the first generation group now exceeds that for the second and third-plus generation groups. The main

TABLE 8-2 Net per Capita Fiscal Impacts of First, Second, and Third-plus Generation Groups (each with dependents) in 2013, by Scenario and Level of Government

		1st Generation and Their Dependents (population: 55.5 million)			
		2013	Outlays	Receipts	Receipts/ Outlays
Scenario 1	Immigrants pay average cost of public goods	Federal	9,767	7,117	0.729
		State and Local	6,141	3,769	0.614
		Total	15,908	10,887	0.684
Scenario 2	Scenario 1, but interest costs are excluded	Federal	8,466	7,117	0.841
		State and Local	5,517	3,769	0.683
		Total	13,983	10,887	0.779
Scenario 3	Scenario 1 but immigrants' sales taxes are 80%	Federal	9,767	7,051	0.722
		State and Local	6,141	3,475	0.566
		Total	15,908	10,525	0.662
Scenario 4	Scenario 1, but new immigrants' corporate taxes are zero	Federal	9,767	6,937	0.710
		State and Local	6,141	3,769	0.614
		Total	15,908	10,706	0.673
Scenario 5	Immigrants pay marginal cost of public goods	Federal	6,154	7,117	1.157
		State and Local	5,515	3,769	0.683
		Total	11,669	10,887	0.933
Scenario 6	Scenario 5, but interest costs are excluded	Federal	6,154	7,117	1.157
		State and Local	5,515	3,769	0.683
		Total	11,669	10,887	0.933
Scenario 7	Scenario 5, but immigrants' sales taxes are 80%	Federal	6,154	7,051	1.146
		State and Local	5,515	3,475	0.630
		Total	11,669	10,525	0.902
Scenario 8	Scenario 5, but new immigrants' corporate taxes are zero	Federal	6,154	6,937	1.127
		State and Local	5,515	3,769	0.683
		Total	11,669	10,706	0.917

NOTE: See note to Table 8-1. The eight estimation scenarios are described in Box 8-1 and accompanying text.

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2nd Generation and Their Dependents (population: 23.3 million)			3rd-plus Generation and Their Dependents (population: 237.3 million)		
Outlays	Receipts	Receipts/ Outlays	Outlays	Receipts	Receipts/ Outlays
13,093	9,495	0.725	12,050	9,473	0.786
6,101	5,039	0.826	5,844	4,813	0.823
19,194	14,534	0.757	17,894	14,286	0.798
11,792	9,495	0.805	10,749	9,473	0.881
5,477	5,039	0.920	5,220	4,813	0.922
17,269	14,534	0.842	15,970	14,286	0.895
13,093	9,507	0.726	12,050	9,486	0.787
6,101	5,092	0.835	5,844	4,868	0.833
19,194	14,600	0.761	17,894	14,353	0.802
13,093	9,536	0.728	12,050	9,513	0.790
6,101	5,039	0.826	5,844	4,813	0.823
19,194	14,576	0.759	17,894	14,326	0.801
13,734	9,495	0.691	12,691	9,473	0.746
6,216	5,039	0.811	5,959	4,813	0.808
19,949	14,534	0.729	18,650	14,286	0.766
12,208	9,495	0.778	11,165	9,473	0.848
5,478	5,039	0.920	5,221	4,813	0.922
17,686	14,534	0.822	16,386	14,286	0.872
13,734	9,507	0.692	12,691	9,486	0.747
6,216	5,092	0.819	5,959	4,868	0.817
19,949	14,600	0.732	18,650	14,353	0.770
13,734	9,536	0.694	12,691	9,513	0.750
6,216	5,039	0.811	5,959	4,813	0.808
19,949	14,576	0.731	18,650	14,326	0.768

source of the shift occurs at the federal level, where the cost of public goods such as national defense accrues. However, even the fiscal ratio for the state and local levels rises somewhat for the first generation group, since there are some public costs that accrue to governments at the subnational level.

Looking in greater detail at the results in Table 8-2, one can see that, as alluded to above, the biggest difference across the scenarios is in the way that government spending on public goods like national defense and interest payments is allocated. Government expenditures on public goods are large at the federal level in the United States, with defense outlays totaling \$617.1 billion and federal interest payments adding \$417.4 billion in 2013. Subsidies and grants accounted for another \$125 billion. All together, these categories of federal spending accounted for almost one-third of total federal spending as reflected in the National Income and Product Accounts that year. Therefore, allocating none of the costs associated with these public goods to individuals in the first generation group, as is done under the marginal-cost scenarios, changes the fiscal ratio estimates significantly. Fiscal ratios for the first generation group rise and become considerably closer to one relative to scenarios 1 through 4, in which the average cost of public goods is allocated to the full population, including immigrants and their dependents. Most but not all of the increase in the fiscal ratio for the first generation group is linked to the change in the public goods assumption that results in vastly reduced federal spending on this group—from an estimate of \$9,767 per individual in scenario 1 down to \$6,154 in scenario 5—a reduction that raises the ratio of receipts to outlays from 0.729 to 1.157. State and local spending on the first generation group also falls modestly for the marginal-cost scenarios, due to a reduction in some interest payments and subsidies treated as public goods, but not by as much as the federal spending declines. In scenario 5, the total fiscal burden for the first generation group drops to \$43.4 billion while it rises to \$126.2 billion for the second generation group and to \$1,035.6 billion for the third-plus generation group. In this scenario, the first generation group accounts for less than 4 percent of the total deficit (while still of course accounting for 17.6 percent of the sample population). As noted, government expenditures on public goods account for almost one-third of total federal spending. Therefore, the average-cost versus marginal-cost assumption—along with other assumptions having to do with how expenditures are allocated—are quantitatively extremely important in driving estimates of the fiscal impact different generational groups.

Thus, while for scenarios 1 through 4 the first generation group displays slightly lower but quite comparable fiscal ratios at the federal level, compared with the third-plus generation group,¹⁸ the ordering reverses

¹⁸Here as elsewhere in the report, “third-plus generation” is a short-hand way of referring to everyone who is neither an immigrant nor a U.S-born child of at least one immigrant parent.

and a wide gulf between the first and third-plus generation groups appears for scenarios 5 through 8. If it is assumed that spending on defense and other pure public goods does not increase with a marginal immigrant and instead these costs are assigned to the native-born only (both second and third-plus generation groups), the first generation group appears in a much more favorable light relative to the scenarios in which its members share in the cost of pure public goods equally. Comparisons between scenarios 1-4 and 5-8 also reveal a small compounding effect associated with the native-born groups (the second and third-plus generation groups). A consequence of the zero marginal-cost allocation assumption is that these two groups appear more costly because they bear an increased burden in public goods costs—costs that in these scenarios are spread across a population that is decreased by the number of foreign-born and their dependent children.

Results also vary somewhat across the other scenarios in Table 8-2, but these differences pale in comparison with the choice between assuming marginal cost versus average cost for public goods. Excluding interest payments—that is, when only the fiscal flows generated by current, but not by past, program usage as reflected in deficits, debt, and interest payments are counted—as is done for scenarios 2 and 6, outlays for all generational groups are naturally reduced and the ratios of receipts to outlays rise.¹⁹ The differences between immigrants and the native-born groups remain qualitatively unchanged, but the first generation comes closer to “breaking even”—and actually does so at the federal fiscal level in scenario 6—compared with scenarios 1 and 5.

Scenarios 3, 4, 7, and 8 adjust the first generation’s contributions of tax receipts downward either in terms of their sales and excise taxes (3 and 7) or corporate income taxes (4 and 8). The motivation for these scenarios is the recognition that some immigrants, especially new arrivals, send remittances to their country of origin rather than spending all of their discretionary income in the receiving country and that they may not yet own taxable U.S. capital assets. The scenarios that test these factors (described in Box 8-1 above) reduce tax receipts somewhat but do not drastically alter the picture. These reductions in tax receipts do little to change the relative value of the immigrant and native-born generational groups (as defined for Tables 8-1 and 8-2) in terms of their net fiscal impacts.

¹⁹This calculation is meant mainly to serve as a sensitivity test and not to be realistic. However, debt was incurred by generations now dead as well, and an additional living person (native-born or immigrant) should not be counted as having contributed to that portion of the debt.

Comparing Immigrants to Natives, Controlling for Characteristics

While informative, the per capita net fiscal impacts and fiscal ratios reported thus far are associated with broad groups of individuals of widely varying age and other characteristics. As the age profiles examined earlier have suggested, the pattern, during this report's period of analysis, of net fiscal impacts of the first generation group is shaped in large part by their disproportionate presence in the working-age and family-rearing portion of the life cycle. In the aggregate, they have made large positive contributions in the form of tax revenues (although still paying less per capita in taxes than their second and third generation counterparts—refer to Figure 8-11), while also drawing on public expenditures at higher than average rates, mainly due to the presence of more children in their households relative to native-born groups. As today's immigrants age, as their children continue to move out of parental households, and as they themselves eventually move into retirement, their fiscal profiles will change substantially.

To more fully grasp the fiscal impact of immigrants and to better understand the reasons for the observed differences, it is useful to adjust for characteristics that tend to vary substantially with nativity. Chief among the key factors are age and education, as well as the calendar year—more specifically, the point in the business cycle, which clearly shifts the fiscal contributions of all population groups, as revealed by Figure 8-19 above. In Table 8-3, the panel explores how net fiscal impacts correlate with immigrant-native differences in characteristics in our pooled March CPS samples spanning 1994 to 2013. As in the analysis that produced the Table 8-1 results, the first group consists of first generation (foreign-born) immigrants, plus their *dependent* children. The second group consists of independent individuals in the second generation and their dependents. In both these groups, as in the analysis for Table 8-1, the potentially productive parents (from a tax contribution perspective) are paired with their children who generate net public costs, predominantly in the form of education. Those in the third-plus generation group include all U.S.-born persons ages 18 and older who do not have a foreign-born parent, plus their dependent children. Unlike the presentation of results in Tables 8-1 and 8-2, in Table 8-3 the estimated fiscal impacts for the third-plus generation group are used as the reference group (or benchmark) for a regression analysis of how the first and second generation groups differ from this benchmark. The unit of analysis in the regression analysis is the *independent* individual; therefore, unlike in the previous analysis, the total number of observations is less than the population (which also includes dependents). Here, the flow of program outlays and tax receipts for dependents are rolled up into the flows of the independent person to which they are linked in the data. This was an explicit decision for this type of analysis because the goal is to

TABLE 8-3 Regression Analysis of Net Fiscal Impacts (in dollars per person) of First and Second Generation Groups Relative to Third-plus Generation Group, 1994-2013, by Level of Government

	Federal	State and Local	Total
Model 1 – Controls: none; N = 2,537,262			
1st generation group	–1309 ***	–1940 ***	–3249 ***
2nd generation group	–4380 ***	535 ***	–3845 ***
3rd+ gen ref. group	—	—	—
R ²	0.002	0.003	0.002
Model 2 – Controls: age group, year, sex; N = 2,537,262			
1st generation group	–2181 ***	–1748 ***	–3929 ***
2nd generation group	1927 ***	738 ***	2665 ***
3rd+ gen ref. group	—	—	—
R ²	0.223	0.040	0.152
Model 3 – Controls: age group, year, sex, education; N = 2,537,262			
1st generation group	–803 ***	–1303 ***	–2107 ***
2nd generation group	1109 ***	554 ***	1663 ***
3rd+ gen ref. group	—	—	—
R ²	0.296	0.062	0.220
Model 4 – Controls: age group, year, sex, education, race/ethnicity; N = 2,537,262			
1st generation group	34	–649 ***	–615 ***
2nd generation group	1233 ***	825 ***	2058 ***
3rd+ gen ref. group	—	—	—
R ²	0.303	0.067	0.229
Model 5 – Controls: age group, year, sex, education, race/ethnicity, number of dependents; N = 2,537,262			
1st generation group	277 ***	–382 ***	–104
2nd generation group	981 ***	547 ***	1529 ***
3rd+ gen ref. group	—	—	—
R ²	0.344	0.285	0.338

NOTES: The first, second, and third-plus generation groups (as defined at the beginning of the chapter) consist only of independent individuals. Dependents are not included (hence *N* is smaller than in the earlier analysis), but their fiscal flows are rolled into those of the independent person(s) to whom they are linked. Each column presents coefficients and significance levels from a separate ordinary least squares regression of net fiscal impact at the given level of government (dependent variable) on indicators for generational group assignment (*x* variables) and indicators for the other characteristics listed as controls.

continued

TABLE 8-3 Continued

The control variables added for each successive model are highlighted in boldface. Coefficients indicate the marginal per capita effects, in 2012 dollars, that are associated with that generational group relative to the third-plus generation group. A positive coefficient indicates an improvement, or savings to the government level, in net fiscal impact; a negative coefficient indicates a budgetary reduction for that government level. Thus, a coefficient on “First generation group” equal to 100 implies that, compared to an average member of the third-plus generation group, an average member of the first generation group has a net fiscal impact that is \$100 more positive for that level of government.

Age groups are measured in 5-year intervals.

Asterisks denote statistical significance at the 1 percent (***), 5 percent (**), or 10 percent (*) levels. Estimation applies to scenario 1, which assigns the average costs of public goods, including interest payments, to each member of the first generation group (as well as to each member of the second and third-plus generation groups).

A note on the R^2 values: In an alternative specification in which (1) the fiscal costs and benefits linked to first generation and second generation individuals were grouped independently of age, and (2) dependents were not assigned to a parent’s generational group, the R^2 values were quite a bit larger. This change in the strength of correlation occurs because, when the fiscal impacts of dependent children are not included in the generational group of the parent or responsible adult to which the children are assigned, the age variable explains a lot more of the total variation in fiscal impacts compared to the specification used for this table, in which age as a driving factor of fiscal impact is diluted by grouping dependents with the independent individual to which they are assigned.

estimate the impact on the regressions of the independent person’s characteristics—most notably age, education, and number of dependents.

Table 8-3 shows the results of a number of regression analyses designed to understand how differences in characteristics between independent individuals in the first and second generation groups (as defined above) and the third-plus generation reference group contribute to group differences in per capita fiscal impact. In each model, the net fiscal impact in 2012 dollars is regressed on generational group status (i.e., first generation or second generation group, with the third-plus generation group constituting the reference category). Model 1 includes no additional explanatory variables and hence shows unadjusted difference in net fiscal impacts for the first and second generation groups relative to the third-plus generation group. Each subsequent model incorporates an additional control variable or group of control variables. A comparison of the coefficients of each subsequent model with the preceding one illuminates the role of the control variable(s) that have been added in explaining the differences between the first and second generation groups and the third-plus generation group. For this very large pooled sample, the regression coefficients are nearly always statistically significant (the level of statistical significance is shown by the asterisks after a coefficient, as explained in the table note).

Model 1 represents the differences in net fiscal impacts of the first and second generation groups relative to the third-plus generation group when differences in characteristics of the two groups are not taken into account. Hence, it corresponds to what would be obtained if one simply examined the averages for each generational group. Using Model 1, the first generation group's net fiscal impact is \$1,309 less per independent person²⁰ at the federal level and \$1,940 less at the state and local level, for a total of \$3,249 less in net fiscal impact per person overall. The corresponding figures for the second generation group are \$4,380 less per person at the federal level and \$535 more per person at the state and local level, totaling \$3,845 less overall.

The extremely large deficit for the second generation group at the federal level in Model 1 might seem surprising in light of Figures 8-17 and 8-18, which indicate that second generation *individuals* generally have a more positive fiscal picture than third-plus generation *individuals* at most adult ages (and have a similar picture in the remaining ages). Although the comparison in those two figures do not take the fiscal impact of dependents into account, it seems unlikely that their inclusion would shift the picture so drastically. The major factor accounting for the large shift is the differences in the age distribution between second and third-plus generation individuals, as illustrated in Figures 8-1 (for 1994) and 8-2 (for 2012). One can think of the regression sample (spanning 1994-2013) as representing a mixture of the two age distributions for each immigrant generation. When the panel examined the data for this period, we found that, among adults, the second generation was concentrated among both younger individuals, prior to their peak earning years, and (especially) older individuals. The latter are most expensive for the federal government due to their lower taxes paid and higher benefits received, but not very expensive for the states (because they still pay property taxes). This makes the fiscal impact of second generation independent persons at the federal level quite negative relative to the third-plus generation group. Results for Model 2, discussed below, confirm this reasoning.

Model 2 adds basic controls for age, calendar year, and sex. The results control for differences in age profiles for the first generation and second generation groups relative to the third-plus generation group, as well as any differences in sex composition or in the year of the CPS source survey. Under Model 2, a negative coefficient on the generation group indicator means that, adjusted for age, sex of group members, and survey year, the net fiscal impact is more negative for a member of that group than for a

²⁰The *N*s in Table 8-3 are the numbers of independent individuals present in each generational group; the flows of dependents are rolled into those of the independent individuals in the household to which they are linked.

member of the third-plus generation (reference) group. Of course a positive coefficient indicates the opposite. Comparing the results for Model 2 with those for Model 1 shows that, controlling for age and the other two variables, the fiscal impact of the first generation group remains quite negative relative to the third-plus generation group.

The impact of differences in the age distribution of the first and third-plus generation groups is seen by comparing the coefficients for the first generation group in Model 2 to those obtained in Model 1. The fiscal impact of the first generation group becomes *more negative* (by \$872 per person) at the federal level, while it becomes *less negative* (by \$192 per person) at the state and local level. These results indicate that the age distribution of the first generation group has a (fairly substantial) positive effect on that group's fiscal contribution relative to the reference group at the federal level (because the first generation group's contribution becomes more negative when one controls for age) but a (smaller) negative effect on the first generation group's fiscal contribution at the state and local level. These findings reflect the concentration of first generation immigrants in the working ages, which increases their federal tax contributions, but it also means they have more dependent children, on average, which increases state and local expenditures on education. Taking both the federal and state and local contributions together, controlling for age (as well as sex and year) results in the total fiscal impact of the first generation group becoming *more negative* (by \$680 per person), meaning that the immigrant age distribution has a positive effect on that group's fiscal contribution overall. This analysis highlights that the first generation group's concentration in the working ages has a favorable effect on their fiscal impact at the federal level and overall but a (relatively small) negative effect on their fiscal impact at the state level.

In contrast to the findings for the first generation group, the Model 2 results for the second generation show positive net fiscal impacts for this group at both the federal and state and local levels, totaling \$2,665 per person. These results indicate that the large negative effect for this group at the federal level in Model 1 were entirely due to the group's age distribution (concentration at both younger and, especially, older ages), since controlling for age (as well as sex and year) transforms this to a sizable positive effect (\$1,927 per person).

Models 3, 4, and 5 sequentially add controls for education, race/ethnicity, and number of dependents, respectively. Again, for brevity, we report regression coefficients only for first and second generation groups; these coefficients can be interpreted as 2012 dollars of net fiscal impact associated with being a member of the first or second generation group, compared to being a member of the third-plus generation group. In Model 3, where educational differences are taken into account, the negative net fiscal

impacts of the first generation become considerably attenuated. Relative to Model 2, the negative impact on federal finances falls by more than half, from $-\$2,181$ to $-\$803$ per person, while the effect on state and local finances falls by about a quarter, from $-\$1,748$ to $-\$1,303$. In Model 4, which controls for differences in racial/ethnic identity, the net fiscal impact of the first generation moves even closer to that of the third-plus generation: essentially on par at the federal level ($+\$34$) and becoming much less negative (just $-\$615$ per person, down from $-\$2,107$) in total. One rationale behind this specification is that, in the United States, race and ethnicity may proxy for differences in treatment and opportunity. Along with age and education, race and ethnicity can affect earnings opportunities and may also be related to labor force participation.

The trend of converging fiscal impacts across immigrant generation groups continues in Model 5. Controlling for number of dependents—where a higher average number of dependents, relative to the third-plus generation, creates more-negative fiscal impacts for immigrants in a raw analysis—lowers the total net fiscal impact for the first generation to a statistically insignificant negative difference ($-\$104$ per person) from the third-plus generation. In short, this comparison of first generation and third-plus generation individuals of similar age and race/ethnicity, with similar education levels and in households with similar numbers of dependents, yields estimated net fiscal impacts that are quite similar.

For the second generation, the net fiscal impacts in Models 3 through 5 continue to be more positive than the third-plus generation reference group across the board, as they were for Model 2. Taking Models 2 through 5 together, the second generation's positive impact on federal finances is somewhat large, varying between $\$981$ per person in Model 5 and $\$1,927$ per person in Model 2. Impacts on state and local finances are also positive but smaller, ranging from $\$547$ per person in Model 5 to $\$825$ per person in Model 4.

It is perhaps not surprising that controlling for education and race/ethnicity eliminates a significant portion of the immigrant penalty (that is, the negative net fiscal impact relative to the third-plus generation) for the first generation. At working ages, net fiscal impact is likely to rise with human capital and skills relevant for U.S. labor markets. These results also reflect that members of the second generation (like all nativity groups) are costly primarily during their youth (when this analysis links them as dependents with a foreign-born parent). Once they are independent adults, this analysis shows their net fiscal impact to be quite positive, even when they are linked with their own dependents.

When a similar regression analysis is applied to the seven alternative scenarios, one finds that assigning public goods only to the native-born (i.e., the second and third-plus generations) strongly increases the estimated

net fiscal impact of being an immigrant (member of the first generation). Because that scenario assigns the cost of public goods to the second and third-plus generations alike, coefficients on the second generation indicator do not change.

Historical Fiscal Impacts: Summary

While cross-sectional estimates of fiscal impacts are limited in a number of ways, 20 years of CPS data on first and second generation immigrants provide numerous insights about the fiscal impacts of immigrants.

Immigrant and native-born populations have historically been and remain very different in terms of their age structure. For the 1994-2013 analysis period, first generation individuals were heavily concentrated in working ages, reflecting growth in immigration leading up to this period and the typical young age profile of immigrants. During the early years of this period, the second generation had comparatively higher shares of elderly, especially, and also young individuals relative to the first and third-plus generations²¹ because members of that generation tended to be the children of earlier large waves of immigrants. By 2012, the second generation was mainly concentrated at young ages, including younger adults, reflecting substantial recent growth in the immigrant cohort of working-age adults with children, coupled with mortality of the second generation children of earlier waves of immigrants.

Considering the fiscal contributions of individuals (without including dependent children), cross-sectional data from 1994-2013 reveal that, **at any given age, adult members of the second generation typically have had a more positive net fiscal impact for all government levels combined than either first or third-plus generation adults.** Reflecting their slightly higher educational achievement, as well as their higher wages and salaries (at a given age), the second generation contributes more in taxes on a per capita basis during working ages than either the first or second generations.

The same cross-sectional data reveal that **the net fiscal impact of individuals in the first generation—at least prior to around age 60—has been consistently less positive than the fiscal impact of the second and third-plus generations.** Relative to the other two generation groups, the foreign-born contribute less in taxes during working ages, and thus their net positive impact during working ages is lower. However, **this pattern switches in retirement, when the third-plus generation has consistently been more expensive to government on a per capita basis than either the first or second**

²¹As noted earlier, throughout this report, “third-plus generation” refers to individuals of the third generation *and higher*—that is, all U.S. residents who are neither immigrants nor children of at least one foreign-born parent.

generation. This change reflects the greater use of Social Security benefits by the third-plus generation.

A different perspective on these same data results from examining the annual per capita fiscal impact for the 1994-2013 analysis period in a way that reflects the age structure of each generational group as it actually existed in each year. For this analysis, the panel defined generational groups such that each group includes the dependent children of independent individuals. For these generational groups, the net fiscal costs of dependent children are included as part of the calculations of outlays, receipts, and net fiscal impacts for the group. For purposes of per capita comparisons, the population of each group is counted as the number of independent individuals of that generation plus the number of their dependent children. **Assigning the per capita fiscal cost of public goods such as national defense on an average cost basis, the first generation group (independent individuals plus their dependents), has a lower fiscal ratio (taxes paid divided by expenditures on benefits received) than the second and third-plus generation groups.** This outcome, portrayed in Table 8-1 and Figure 8-19, is driven by two factors: (1) The lower average education level of the first generation group translates into lower incomes and, in turn, lower tax payments. (2) Higher per capita costs (notably those for public education of dependent children) are generated by the first generation group at the state and local levels because this group has, on average, more dependent children per adult member. A partially offsetting positive fiscal impact is that, during the analysis period, first generation adults were disproportionately of working ages and paying taxes. The regression results, which adjust for characteristics—most notably age and education—corroborate this interpretation (refer to Table 8-3). Controlling for age, the results indicate that, during the analysis period, the concentration of independent individuals of the first generation group in the working ages created a favorable effect on the group's fiscal impact at the federal level and overall but a (relatively small) negative effect on its fiscal impact at the state and local level. The regression results further indicate that **the more negative fiscal impact of the first generation group (relative to the two native-born groups) overall is accounted for by (1) lower average educational levels for first-generation adults and (2) their larger average number of dependents.**

Looking again at every year over the 1994-2013 period of historical analysis, and again assigning the per capita fiscal cost of public goods such as national defense on an *average cost* basis to all generational groups, **the fiscal ratio for the second generation group (including dependent children) is only modestly more positive than the fiscal ratio for the first generation group over the period as a whole, and it is well below that of the third-plus generation group.** The fiscal ratio (shown in Table 8-1 and Figure 8-19) is similar to that of the first generation group in 1994, but becomes more like

that of the third-plus generation group by 2013 (although it remains lower). This result may at first blush be somewhat surprising, given the data represented in Figures 8-8 through 8-12, which show that the second generation (as individuals without dependent children) exceeded the third-plus generation along a number of dimensions, including years of education, per capita wage and salary income, and per capita taxes paid. Remember, however, that data underlying those earlier figures were arranged to estimate these variables for individuals in each group *at a given age*. The comparatively low fiscal ratios for the second generation group relative to the third-plus generation group reflects, in the beginning of the 1994-2013 period, the former group's comparatively high concentration in the (fiscally expensive) retirement portion of the age distribution. The closing gap in fiscal ratios between the generational groups (shown in Figure 8-19) reflects the more recent age profile, characterized by a younger second generation of independent individuals and an aging of the third-plus generation's independent individuals to a higher concentration in retirement. The regression analysis in Table 8-3 indicates that **the larger negative effect for the second generation group (compared to the third-plus generation group) during the analysis period was due entirely to the two groups' age distributions.**

Because the federal government has typically run budget deficits during the analysis period, the three generational groups mostly have negative net fiscal impacts between 1994 and 2013. However, **both federal and total fiscal ratios increased for both the first and second generation groups between 1994 and 2013, while they generally decreased for the third-plus generation group.** The net fiscal impact of each generational group grew more positive during the boom of the late 1990s before falling and rising during the 2000s and again during and after the financial crisis of 2008.

Data for the analysis period (shown in Table 8-1) translate into large fiscal shortfalls overall: The total fiscal ratio falls well below 1 for *all three generational groups*. Cross-checking against alternative sources indicates that, although these numbers are large, they are consistent with deficit figures in the National Income and Product Accounts for the federal and state-and-local budgets combined. For 2013, the data in Table 8-1 show the 55.5 million people in the first generation group (independent individuals and their dependents), 23.3 million people in the second generation group (independent individuals and their dependents), and 237.3 million people in the third-plus generation group (independent individuals and their dependents) as producing a total (federal plus state-and-local) fiscal shortfall of \$1,243 billion. The total fiscal burden was \$279 billion for the first generation group (average outlays of \$15,908 minus average receipts of \$10,887, multiplied by 55.5 million individuals), \$109 billion for the second generation group (average outlays of \$19,194 minus average receipts of \$14,534, multiplied by 23.3 million individuals), and \$856 billion for the third-plus

generation group (average outlays of \$17,894 minus average receipts of \$14,286, multiplied by 237.3 million individuals). Under the assumptions of this analysis, the first generation group accounted for 17.6 percent of the population and 22.4 percent of the total deficit. In contrast, the second generation group accounted for a slightly higher share of the total deficit (8.7%) than its share in the population (7.4%). While the fiscal shortfall for the average person in the first generation was larger than it was for the average person in either the second or third-plus generation groups, the shortfall for the latter two groups would have been larger without the addition of the first generation group because federal expenditures on public goods such as national defense (assigned to all members of that group on an average cost basis under scenario 1) would have to be divided among a smaller population. Some argue that this is an important benefit of immigration.

Government expenditures on public goods are large, accounting for almost one third of total federal spending. Therefore, the average versus marginal cost assumption is quantitatively extremely important in driving fiscal impact estimates. **When a marginal cost allocation of public goods is assumed, instead of the average cost allocation, the total net fiscal impact of the first generation group becomes much lower than that of the two native-born groups.** In this case, the first generation group accounts for less than 4 percent of the total deficit (while still of course accounting for 17.6 percent of the sample population).

Fiscal impacts vary strongly by level of government. States and localities bear the burden of funding educational benefits enjoyed by immigrant and native children. The federal government transfers relatively little to individuals at young and working ages but collects much tax revenue from working-age immigrant and native-born workers. Inequality between levels of government in the fiscal gains or losses associated with immigration appears to have widened since 1994.

8.3 FORECASTS OF LIFETIME NET FISCAL IMPACTS

Introduction

Section 8.2 addressed the question of the fiscal impacts of immigration using current and historical data to describe what has happened in recent decades. One insight from that analysis was that recent fiscal impacts reflect the youthful age structure of immigrants currently and thus may not be indicative of their future fiscal impacts. In this section, the future fiscal impacts of immigrants are explored using a different type of analysis. Among the focal questions are the following: If an immigrant arrives in the United States and pays taxes and receives benefits over his or her lifetime, will that additional immigrant contribute positively to public finances on

net, by paying more in taxes than that individual receives in benefits? Or will this additional immigrant represent a net fiscal cost by absorbing more in benefits than is paid in taxes? What about the children of that immigrant who may create public costs today but who may work and pay taxes in future years? In short, what is the magnitude of the total new net contribution or burden associated with the immigrant's arrival, including the net contribution or burden of the immigrant's descendants?

This research question is best examined with a dynamic, forward-looking calculation, as was done in the pioneering work on future fiscal impacts in *The New Americans* (National Research Council, 1997) almost two decades ago. The calculation assumes the condition and subsequent life experience of an "average" new immigrant, based on the characteristics of recent arrivals to the United States, and follows the immigrant into the future, adding up tax payments and benefit receipts each year from the time of entry, weighted by the probability of the immigrant's survival and probability of remaining in the country. The model also forecasts the immigrant's fertility, and the taxes paid and benefits absorbed by children of the immigrant. The fiscal impacts of descendants are also weighted by probabilities of their survival and of remaining in the United States.

Including the impact of an immigrant's descendants over a significant part of the life cycle is an important feature of the forward-looking calculation presented here, and one that distinguishes it from other types of fiscal impact models. Descendants of immigrants often only enter the debate as children, because this is often where they appear in cross-sectional data providing a point-in-time snapshot; currently the average immigrant household is a net fiscal burden in part because young children of immigrants, like the children of natives, receive public education. Following the descendants of immigrants further into the future, when they become workers and start paying taxes, provides a more complete measure of fiscal impact because it includes not just the cost of their education but also the delayed fiscal benefits of that education: larger tax payments made possible by the investment in human capital that education represents.

As discussed in Chapter 7, forward-looking analyses require assumptions about future developments which are inherently uncertain. The panel has addressed these uncertainties by examining the robustness of results across an array of reasonable alternative scenarios. The CBO and the Social Security Trustees²² routinely conduct analyses of long-term fiscal

²²Technically, there are three boards of trustees overseeing the Social Security and Medicare programs: the Board of Old Age and Survivors Insurance Trust Fund and the Disability Trust Fund, the Board of the Hospital Insurance Trust Fund (Medicare Part A), and the Board of the Supplemental Medical Insurance Trust Fund (Medicare Part B). Currently the same six trustees serve on all three boards. For further information, see www.ssa.gov/history/reports/trustees/historypt.html [November 2016].

developments that many observers view as meaningful, given that they supply “official” projections, even though they are subject to high levels of uncertainty. Those analyses similarly evaluate robustness by comparing results across a range of scenarios. We adopt a broadly similar research design and array of assumptions about central rates of growth and change in future periods.

Methodology

Broadly speaking, the budget concepts and methodologies adopted here were developed in *The New Americans* (National Research Council, 1997). Age profiles are estimated for a comprehensive list of government tax and spending programs at federal and at state and local levels. The approach is partial equilibrium in nature, which means that an additional new immigrant is assumed to pay taxes and receive benefits in the same way that an average immigrant with similar characteristics does along whichever temporal baseline is being projected. Any economic or policy responses to the presence of the new immigrant are not taken into consideration. In addition, we do not model macroeconomic responses to debt or tax rates beyond those that are implicit in CBO forecasts, which we describe in detail below. For small changes, these assumptions are likely to be reasonable, but one should not extrapolate these results to forecast the effects of large numbers of new immigrants.

As discussed in the preceding section presenting the historical analysis, a key question is how to account for government spending on public goods. There are several such categories, but by far the largest is federal defense spending which today amounts to around \$2,000 per person annually. Pure public goods, by definition, do not trigger additional costs with additional users—at least as long as the number of additional users is small—so the marginal impact should be zero; and it almost certainly would be if one were to take literally the scenario of only one additional immigrant. But it may be incorrect to assume that a large increase in the population, whether obtained through immigration or some other channel, would exert no pressure on the defense budget and similar programs. In order to examine the robustness of our results, we include alternative assignments for federal defense spending and other categories of public goods in a subset of scenarios. As in *The New Americans* (National Research Council, 1997), we also model several categories of spending as *congestible goods*—that is, goods subject to congestion with more users, and thus a cost that rises with population increase. Public administration expenses, police and fire-fighting services, and incarceration are all treated as congestible costs. In the forward-looking calculation, we omit interest payments, the vast majority of which are federal interest payments on the

debt. Interest payments are conceptually distinct from spending on public goods; they represent the current costs of servicing past deficits that have accumulated into the current debt.²³ New immigrants are responsible only for the net fiscal impacts incurred once they have arrived in the country, which are fully accounted for by their annual tax contributions less their absorption of benefits (which, in some scenarios, includes public goods such as defense).

The panel's methodology measures the future net fiscal impact of an immigrant and descendants over a 75-year time horizon, with dollar amounts discounted to present values using standard techniques. Because of the length of human life spans, fiscal planning is best informed by projections that cover a long time horizon. For example, the Social Security Trustees annually project program balances over a 75-year horizon, which is long enough for most current workers to age out of the system. Since 2003, the Social Security Trustees have also presented supplemental forecasts of actuarial balance over an infinite future, and *The New Americans* (National Research Council, 1997) projected net fiscal impacts of immigrants over an infinite horizon. For this report, the panel adopted the 75-year horizon of the Trustees, which also appears in supplemental long-term forecasts prepared by the CBO (Congressional Budget Office, 2014a), which it calls its extended baseline or "projections for the very long term."

One of the challenges of projecting taxes and spending either in aggregate or associated with an (incremental) immigrant and descendants over such a long time horizon is that the forecasts may or may not imply fiscal sustainability. Assumed fiscal sustainability may specify a national debt that does not grow without limit, interest rates that do not explode in reaction to ballooning debt levels, and gross domestic product (GDP) that continues to grow with population and productivity rather than shrink in response to a debt crisis. The authors of *The New Americans* (National Research Council, 1997) opted to forecast a future in which the ratio of debt to GDP was stabilized at 80 percent through a balanced mix of tax increases and benefit reductions. In their forecast, the ratio first hits that target level in 2016 (National Research Council, 1997, p. 324).²⁴ For this report, the panel opted instead to generate three forecast scenarios; these are based on:

²³In other words, it does not make sense to treat interest payments on past debt as a benefit received by a new immigrant. Also, it goes directly counter to the argument that, as far as interest payments are concerned, immigrants are a positive to government budgets as they help spread the cost of debt payments across more individuals.

²⁴Economists believe the ratio of publicly held debt to GDP is a good measure of fiscal sustainability. To date, the 80 percent threshold has only been crossed by the U.S. government during World War II.

- **CBO’s Long-term Budget Outlook** that assumes no changes in current legislation—that is, all current laws persist and no new laws are passed to change taxes or spending in the future. Current entitlement programs continue to pay benefits exactly as they do now, and provisions of newer legislation such as the Affordable Care Act grow as currently legislated. Tax breaks enacted after the Great Recession expire as legislated and, as wages rise, more taxpayers end up in higher tax brackets. This scenario does not prevent the federal debt from growing to what many economists believe are levels that would severely impact economic growth and the continuing ability to borrow money. To implement the CBO’s long-term budget projections for this exercise, age profiles of the various taxes and benefit programs are adjusted to match aggregate program amounts as projected by the CBO.
- **CBO’s Long-term Budget Outlook with Deficit Reduction** that takes the previous scenario as its starting point but, beginning in 2015, narrows the gap between federal spending and revenue using a 50/50 split between tax increases and spending cuts. Adjustments narrow annual deficits to half of their projected levels after 20 years, which is about the time the debt-to-GDP ratio is projected to exceed 90 percent in the CBO current legislation scenario. This represents approximately \$3 trillion in projected deficit reduction from 2015 to 2035: raising taxes 3 percent higher than their projected level by 2035 and lowering noninterest spending by 3 percent compared to its projected 2035 level.
- **No Budget Adjustments**, our “business-as-usual” forecast in which spending and taxes simply increase by the rate of productivity growth, which is set at 1 percent, and stay fixed relative to one another across all age profiles.²⁵ An annual rate of 1 percent was chosen in order to parallel the basic assumptions in other long-run studies (such as those used in budget projections by CBO and in *The New Americans*). In this scenario, in contrast to the CBO projections, no currently legislated or expected fiscal changes, such as an increase in Social Security retirement ages or a sunset of tax cuts, are included. The only change over time is that the current

²⁵State and local governments are typically subject to balanced-budget amendments, and we generally adhere to the methodologies described in the 1997 report to forecast these budgets. In the two CBO-based scenarios that we present here, we assume both per capita spending and revenue grow at the same rate as per capita GDP in CBO’s long-term budget outlook. This holds the state-funded portion of Medicaid to a lower growth rate than is assumed for the program as a whole, and it is assumed that the federal government assumes any excess costs. In the third scenario of “business-as-usual” or “no budget adjustments,” we let spending and revenue grow at the central rate of 1 percent.

observed age schedule of tax payments and benefit receipts for each group shifts up at the same rate every year.

Table 8-4 shows the resulting average annual inflation-adjusted growth rates over the projection interval in several categories of per capita flows across these three scenarios. Except for the category of other discretionary spending, growth in per capita expenditures is higher in the two CBO scenarios than in the third scenario. Federal revenue grows at a 2.2 percent rate on average in CBO’s deficit reduction scenario, 0.2 percentage points faster than federal spending.

Under the no budget adjustments scenario (third bullet above), annual growth in per capita expenditure flows is set at 1 percent per year for each age group; any deviation from that in Table 8-4, column 3, is driven by change in the population age structure. For example, even though growth in spending on each age group’s Medicare benefits is set at 1 percent, the overall growth rate is higher (1.7%) because the population is shifting disproportionately into ages that receive the benefit. The CBO projections build in this effect as well, but also reflect that medical costs have been rising at a faster rate than economic growth, a trend that is assumed to continue (in the CBO scenarios). In the CBO-based scenarios, the Student Health Insurance Plan and the Affordable Insurance Exchanges experience

TABLE 8-4 Average Annual Growth in per Capita Flows, 2012-2087 (under three scenarios, in percentage)

	CBO Long-Term Budget Outlook	CBO with Deficit Reduction	No Budget Adjustments
Federal Spending (excluding public goods)	2.1	2.0	1.5
OASDI	2.1	2.0	1.7
Medicare	2.9	2.8	1.9
Medicaid, SHIP, Exchanges	3.0	2.9	1.4
Other Discretionary	0.7	0.6	1.0
Federal Revenue	2.1	2.2	1.0
Income Tax	2.4	2.5	1.0
FICA	1.6	1.7	1.0
Corporate Taxes	1.8	1.9	1.0
Other Taxes	2.5	2.6	1.2

NOTES: CBO = Congressional Budget Office, OASDI = Old-Age, Survivors, and Disability Insurance Program, SHIP = Student Health Insurance Plan, and FICA = Federal Insurance Contributions Act.

additional growth pressure from legislative changes that will continue to go into effect as a result of the Affordable Care Act. On the revenue side, the CBO projections show faster growth than the panel's No Budget Adjustments scenario mainly due to tax bracket creep: the fact that, in the absence of legislative changes to the tax code, assumed economic growth will place an increasing proportion of the population in higher tax brackets.

The goal of this exercise is to assess the net present value (NPV) to governments of an additional immigrant and that immigrant's descendants; to do so, a real rate of interest (or discount rate) must be specified in order to value future dollars in terms of current dollars. The Social Security Trustees have assumed rates of 2.4, 2.9, and 3.4 percent for their three alternatives in two consecutive actuarial reports (Board of Trustees, Federal Old-Age and Survivors Insurance and Federal Disability Insurance Trust Funds, 2014, 2015). CBO assumed a 2.5 percent interest rate in its 2014 long-range forecasts and 2.3 percent in its 2015 forecasts (Congressional Budget Office, 2014, 2015).²⁶ The panel chose a relatively conservative real discount rate of 3 percent. A higher value will reduce the impact of future cash flows on the bottom line. Because many fiscal impacts of immigration, such as the education of the children of immigrants, are more negative in the short run than they are in the long run, a rate that is too high would tend to understate the net fiscal benefit or overstate the net fiscal cost of an immigrant.

The Future in Context

As discussed earlier in this chapter, both immigrants and government budgets have changed since the mid-1990s, when a similar exercise was undertaken for *The New Americans* (National Research Council, 1997). Each of these changes, discussed below, has implications for the estimation of the fiscal impacts of immigrants.

Who Is the New Immigrant?

Each immigrant arrives with a particular set of characteristics that contribute to shaping that person's experience once he or she arrives in the United States. The panel focuses on the characteristics that are most important in determining the amount of taxes an immigrant pays and the cost of benefits they receive: their education, age at arrival in the country, and time since arrival. Education is correlated with current and future earnings,

²⁶On the other hand, reflecting a particular risk profile for investment in the context of the economic impacts of climate change, William Nordhaus's DICE-2013R model uses discount rates in the 4.25-5 percent range, depending on whether they are being applied to a near-term or long-term scenario (Nordhaus and Sztorc, 2013, p. 38).

and thus tax payments. Earnings also determine eligibility for means-tested benefits and for government benefits that are pegged to past earnings, like Social Security or unemployment benefits. Age determines where a person is in his or her career and where that individual falls on the inverse-U-shaped earnings curve. Time since arrival is important in three ways: Time in the country is one eligibility rule for several important government benefit programs; it correlates with extent of assimilation, which among other things allows immigrants to at least partially close earnings gaps with their native-born counterparts; and, in combination with a fixed current date, it delineates different arrival cohorts with different characteristics that are correlated with tax and benefit flows.

In order to accurately portray how the fiscal impacts of today's immigrants might have changed since the research for *The New Americans* (National Research Council, 1997) was done in the 1990s, it is necessary to identify the characteristics of recent arrivals and of the overall population of immigrants in the country. Starting with education, today's immigrants have more people in the highest educational groups and fewer in the lowest. This trend is revealed in Table 8-5, which shows educational distributions based on five categories of attainment: less than a high school diploma, high school diploma, some college but no degree, bachelor's degree, and additional years of schooling or degrees beyond a bachelor's (which includes attainment of advanced degrees). For comparative purposes, distributions for the second and third-plus generations²⁷ are also shown for the current period and for the mid-1990s. Because these generations differ significantly in their age structure, the table shows age-standardized measures of these educational distributions. These figures are obtained by applying age-specific education rates for different groups to a single profile of the population by age—in this case, that of first generation immigrants.

As shown previously, immigrants have had systematically different levels of education depending on their arrival cohort. To explore this, the panel varied the first generation group examined in the top and bottom panels of Table 8-5. The top panel focuses on immigrants who have arrived within the past 5 years, while the bottom panel includes the entire stock of immigrants. Both the top and bottom panels define the second and third-plus generations the same way but, because each panel standardizes to the age structure of its first generation, the educational achievement rates change slightly for both of the native-born generations. Averages for each nativity group within the five tiers of the educational

²⁷The generations used for Table 8-5 include all individuals by their nativity status only, whether they are independent or dependent individuals; dependent children of a different nativity status are not included in their parents' generation.

TABLE 8-5 Educational Distribution by Generation, Ages 25 and Older, for Recent (past 5 years) and All Immigrants

	First Generation			Second Generation			Third-plus Generation		
	1994-1996	2011-2013	Change	1994-1996	2011-2013	Change	1994-1996	2011-2013	Change
First generation includes recent immigrants only:									
<HS	0.36	0.21	-0.14	0.11	0.08	-0.03	0.12	0.07	-0.05
HS	0.21	0.23	0.02	0.28	0.24	-0.04	0.35	0.29	-0.06
SomCol	0.13	0.14	0.01	0.30	0.29	0.01	0.28	0.30	0.02
BA	0.19	0.25	0.06	0.21	0.25	0.05	0.18	0.23	0.05
>BA	0.11	0.16	0.05	0.10	0.14	0.04	0.07	0.10	0.04
Total	1.00	1.00		1.00	1.00		1.00	1.00	
Average (numbering education groups 1-5):	2.50	2.93	0.43	2.92	3.14	0.22	2.71	3.00	0.29
First generation includes all immigrants:									
<HS	0.38	0.26	-0.12	0.13	0.08	-0.05	0.16	0.08	-0.07
HS	0.22	0.24	0.02	0.30	0.25	-0.05	0.35	0.31	-0.05
SomCol	0.11	0.14	0.02	0.27	0.28	0.00	0.26	0.29	0.03
BA	0.18	0.23	0.04	0.18	0.23	0.05	0.16	0.21	0.05
>BA	0.10	0.14	0.03	0.11	0.16	0.05	0.07	0.11	0.04
Total	1.00	1.00		1.00	1.00		1.00	1.00	
Average (numbering education groups 1-5):	2.41	2.74	0.33	2.83	3.13	0.30	2.64	2.95	0.31

NOTE: The distributions for the second and third-plus generation groups are standardized on the age distribution of the first generation group. Figures in the bottom rows of each panel show the weighted average of the fraction of individuals at each education level multiplied by the number assigned to the level, from 1 to 5.

SOURCE: All data used in the analysis are from the 1994-1996 and 2011-2013 March Current Population Survey.

distribution are shown along the bottom of each panel. These statistics show that, in both the earlier and current periods, the second generation achieves the highest educational attainment, the third-plus generation is next highest, and the first generation has the lowest educational attainment of the three.

While all nativity groups have improved their educational distributions, the first generation has caught up over time. Recent first generation immigrants, depicted in the first two data columns of the top panel, show the most improvement. Their share in the lowest educational group has shrunk the most (the less than high school, <HS, group decreased by 14 percentage points) and their share in the highest educational group has grown the most (the group with additional years beyond a bachelor's degree, >BA, increased by 5 percentage points). Among all first generation immigrants, shown in the first two data columns of the lower panel, the trends are similar but, as one might expect, the educational distribution is shifted toward less attainment because earlier immigrants have less education than recent immigrants. In both panels, the first generation has experienced the largest decrease in the lowest education group and the largest overall increase in average education level.

Increasing education levels over time motivated the panel to adopt a methodological change in its approach to longitudinal forecasting compared to previous work. In *The New Americans*, the analysis used only three education categories: less than high school, high school diploma, and more than a high school diploma. No distinction was drawn between the top three categories in Table 8-5 because there were fewer immigrants in those categories. This may have been a reasonable strategy given the distribution of education among immigrants at the time, but as Table 8-5 reveals, it has become increasingly insufficient for analysis.

Changing educational attainment patterns means that, relative to the 1990s, a greater percentage of recent immigrants are found in higher earning and higher taxpaying groups. Likewise, a smaller percentage are now found in the lower socioeconomic groups that—once citizenship or sufficient time in the country has been established—may qualify for means-tested benefit programs such as the EITC, Medicaid, and Supplemental Security Income (SSI). Table 8-5 also shows that, over this time period, the educational attainment of the second generation did not improve as much as it did for the first generation. But the second generation remains the most educated of these three groups.

Recent immigrants are slightly older on average than were those who arrived during the 1990s, following the global trend of population aging affecting both the United States and almost every sending country in the

world.²⁸ Age is important because, as shown earlier in this chapter, young and old age groups are net recipients of government benefit programs, paid for by those in the working ages who are net taxpayers. Figure 8-18 shows this pattern, in which the first crossover occurs around age 25, when young adults begin working and paying enough taxes to break even; the second crossover occurs around age 65, when most U.S. residents become eligible for Social Security and Medicare. Using these cross-over points as age boundaries, Table 8-6 shows the age distributions for immigrants and natives now and in the mid-1990s. First generation immigrants today are even more heavily concentrated at working ages, as defined by the 25-65 age group, than they were at the time of *The New Americans* (National Research Council, 1997). This is true regardless of whether one looks at recent immigrants, shown in the leftmost columns, or all first generation immigrants as shown in the middle columns. Although current workers get older and eventually become expensive retirees, one would still expect these developments to be good for government finances in the short term. By contrast, the age structure for natives has not changed much during this period. The Baby Boom generation, located solidly within the working-age group in the early period, has begun to move into retirement and will continue to do so. The bottom line most relevant here is that these shifts in age structure imply that an average new immigrant today is more likely to be of working age than 20 years ago. Thus, our forecast of that average new immigrant's lifetime net fiscal impact begins at a more advantageous age for government budgets now compared with when the estimates for *The New Americans* (National Research Council, 1997) were created.

The sections that follow assess the fiscal impacts that are associated with an “average immigrant”—a weighted average of flows based on the distribution of age and education either of recent arrivals or of all current first-generation immigrants, depending on the scenario.

What Does a New Immigrant Currently Pay in Taxes and Receive in Benefits?

In Section 8.2, age profiles of taxes and benefits, based on estimates of program utilization from the March CPS, were presented; essentially the same age profiles are used for the analysis here. However, age profiles across nativity groups are further disaggregated by time in the United States and across the five educational categories described above.²⁹ A key challenge

²⁸The older age and higher education of recent immigrants also reflect the decline of Mexican immigration. This is not thought to be a fluke of the recession but reflects long-term changes in Mexico, especially the decline in fertility that once produced surplus workers needing to find work outside their native country.

²⁹To summarize briefly, these age profiles are schedules of tax and benefit flows per person by age, which are estimated from 3-year pooled CPS samples, smoothed using standard

of this forward-looking exercise involves dealing with incomplete educational histories for the young. For a large share of individuals ages 0-24 years, their schooling has not yet been completed. In these cases, we assign to these individuals' records the educational group of a parent, which we impute if no parents are co-resident in the household.

We begin by examining age profiles of wage and salary earnings, which are shown in Figure 8-20. For each generation group, there is a clear gradient in earnings according to education, and it is broadly similar within each group. One visible difference is that immigrants of the first generation earn less of a premium for a high school degree compared to the other two groups. The first generation earns less at each level of education except the highest and, even within that group, immigrants at older working ages still suffer an earnings penalty compared to other workers. Relative to the third-plus generation and higher, whose average earnings rise with age until roughly age 60, immigrants with more than a bachelor's degree exhibit a more steeply rising earnings profile and an inflection point near age 45.

Net fiscal impacts by age across education and nativity are shown in Figure 8-21. Children and young adults under age 25 with incomplete education are coded as having the education level of a parent (or average if there are two). Net fiscal impacts begin negative at young ages for all groups before dropping sharply at the age of public elementary schooling. Trajectories by education crisscross one another after high school, when the net impact of individuals who drop out of or stop at high school rises more than those who continue in school. Fiscal impacts then tend to rise strongly and become positive during working years, increasing until the mid-50s for the second and third-plus generation but plateauing earlier among the first generation. Another aspect here that mirrors patterns in earnings is the compression of the educational gradient within the first generation.

Gradients across educational groups within the third-plus generation

techniques, and augmented with other data sources where necessary. We estimate age profiles across five groups identified by nativity and time in the United States: foreign-born arriving within the last 0-4 years, foreign-born arriving within the last 5-9 years, foreign-born arriving more than 10 years ago, native-born of foreign-born parents, and native-born of native-born parents. We also measure these age profiles separately across the five education groups as described in the previous section. For each program, we adjust CPS data for under- or over-reporting by scaling each record by a single multiplicative factor for that particular program so that the accumulated aggregate over all records matches program totals from the National Income and Product Accounts (NIPA). In our calculations, 2012 is the first year of the forecast; for *The New Americans* (National Research Council, 1997) work, it was an average of 1994 and 1995. When the CPS has individual-level indicators of a particular flow, those are used. Where only a household-level flow is available, we make assumptions about the allocation of the household amount to individuals within the household that mirror the methodologies in *The New Americans*. A full discussion of the panel's methodologies is in the Annex (Section 8.4) at the end of this chapter.

TABLE 8-6 Age Distribution by Generation, 1994-1996 and 2011-2013

Age Group	<u>Recent First Generation</u>			<u>All First Generation</u>			<u>All Native Born</u>		
	1994-1996	2011-2013	Change	1994-1996	2011-2013	Change	1994-1996	2011-2013	Change
0-24	0.47	0.37	-0.10	0.22	0.14	-0.08	0.38	0.36	-0.01
25-64	0.50	0.59	0.09	0.66	0.73	0.07	0.50	0.50	0.00
65+	0.03	0.04	0.01	0.12	0.13	0.01	0.12	0.14	0.01
Total	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00	1.00

NOTE: "Recent First Generation" means individual arrived in the United States within 0-4 years of the analysis period
SOURCE: All data used in the analysis are from the 1994-1996 and 2011-2013 March Current Population Survey.

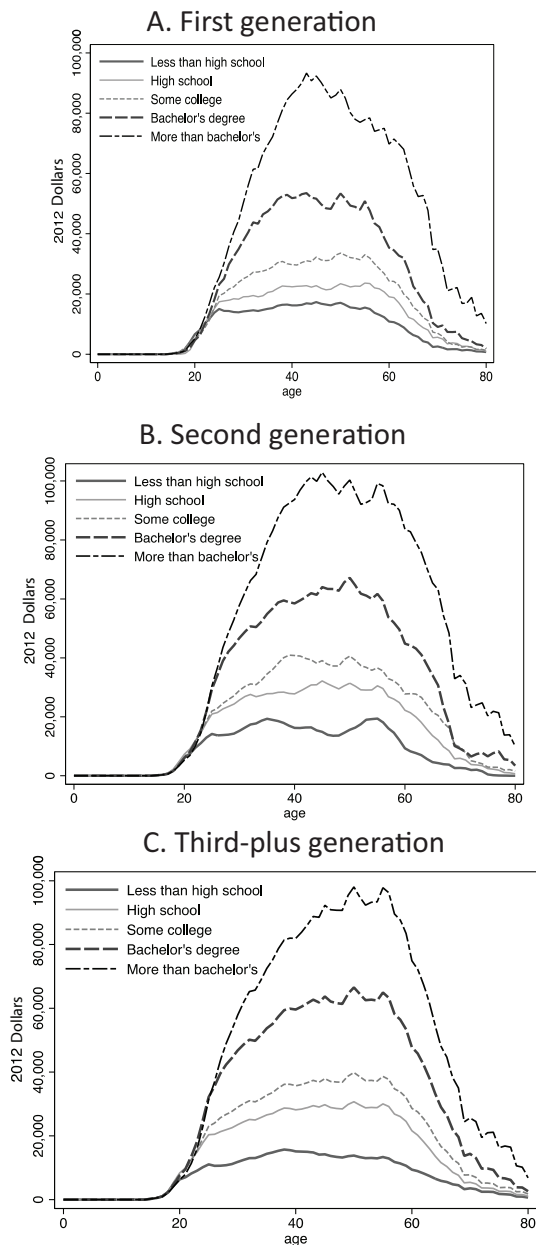


FIGURE 8-20 Age profiles of wage and salary income by educational attainment and nativity, 2012.

SOURCE: Data from the 2011-2013 March Current Population Surveys.

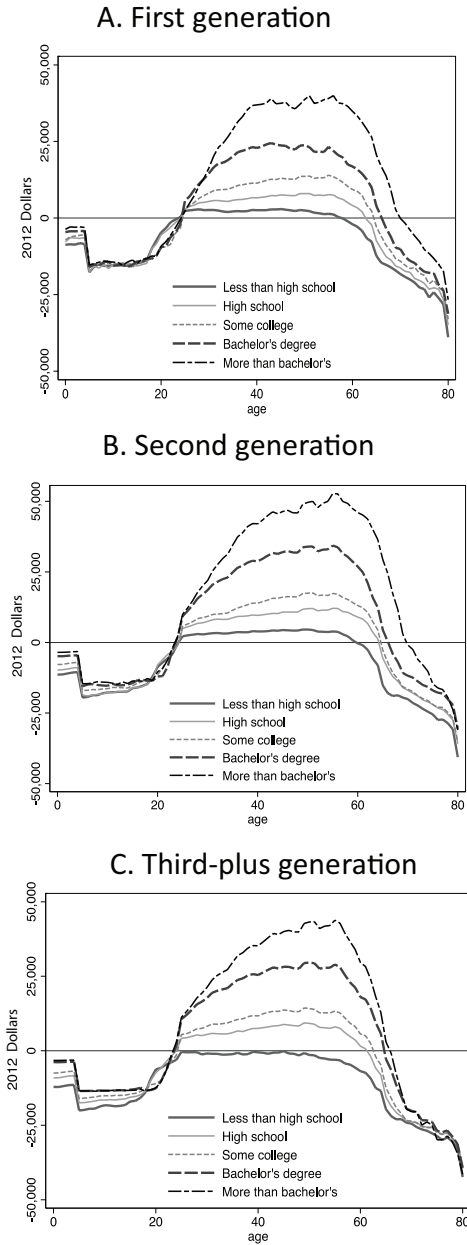


FIGURE 8-21 Age profiles of net fiscal impact by educational attainment and nativity, 2012.
SOURCE: Data are from the 2011-2013 March Current Population Surveys, normalized to administrative control totals.

are arguably most interesting here. The largest differences between groups in terms of absolute dollars is found at working ages, when those with the most education are contributing much more on net than those with the least. Third-plus generation persons without a high school degree never contribute more than they receive, a striking result that is not true for either the first or second generation. Children of the third-plus generation also exhibit a wider educational gradient in their net fiscal impacts than either of the other two groups. The explanation for both of these patterns must be greater usage of fiscal transfer programs by third generation working-age parents, given their education levels compared to immigrants. For the first generation, part of this is purely mechanical; eligibility for some fiscal transfers depends on time spent in the country. But the second generation should have close to the same access as the third-plus generation; but Figure 8-21 shows signs of less program utilization by the second generation.

Figure 8-22 shows how strongly tax contributions rise with educational attainment for immigrants. Each set of 5 vertical bars in the figure shows taxes paid by an educational group relative to those paid by the least educated in each period and at each level of government. So, in 2012 for example, as represented in the far-right bar chart, those with a bachelor's degree paid on average almost three times as much in total taxes as did those with less than a high school education. Taxes paid by immigrants in the highest education group are considerably higher than those paid by the other education groups, and they appear to be rising faster. This trend is more pronounced at the federal level than at the state and local levels, presumably because the federal income tax is relatively more progressive than most taxes collected at the state level. The trends shown in Figure 8-22 are roughly the same for second and third-plus generation taxpayers.

For benefits, the relative flows are more similar across education groups than they are for taxes where, on average, the high education groups pay much more than the low education groups.³⁰ Regulations requiring documentation of legal status or minimum time in the United States to qualify for some benefit programs have had the expected effect of decreasing immigrants' participation in those programs. Focusing on those age groups that are net receivers of benefits, Table 8-7 shows that, while benefits have grown in real terms for all nativity groups since the time (circa 1995) of the data used in *The New Americans* (National Research Council, 1997), benefits have grown more slowly for the first generation than for the other two generational groups. Given these underlying trends in taxes and benefits by nativity since *The New Americans*, one should expect new immigrants to

³⁰For all groups regardless of immigration status, the government has shifted its benefit portfolio away from the poorest of the poor and toward the working poor (Moffitt, 2015).

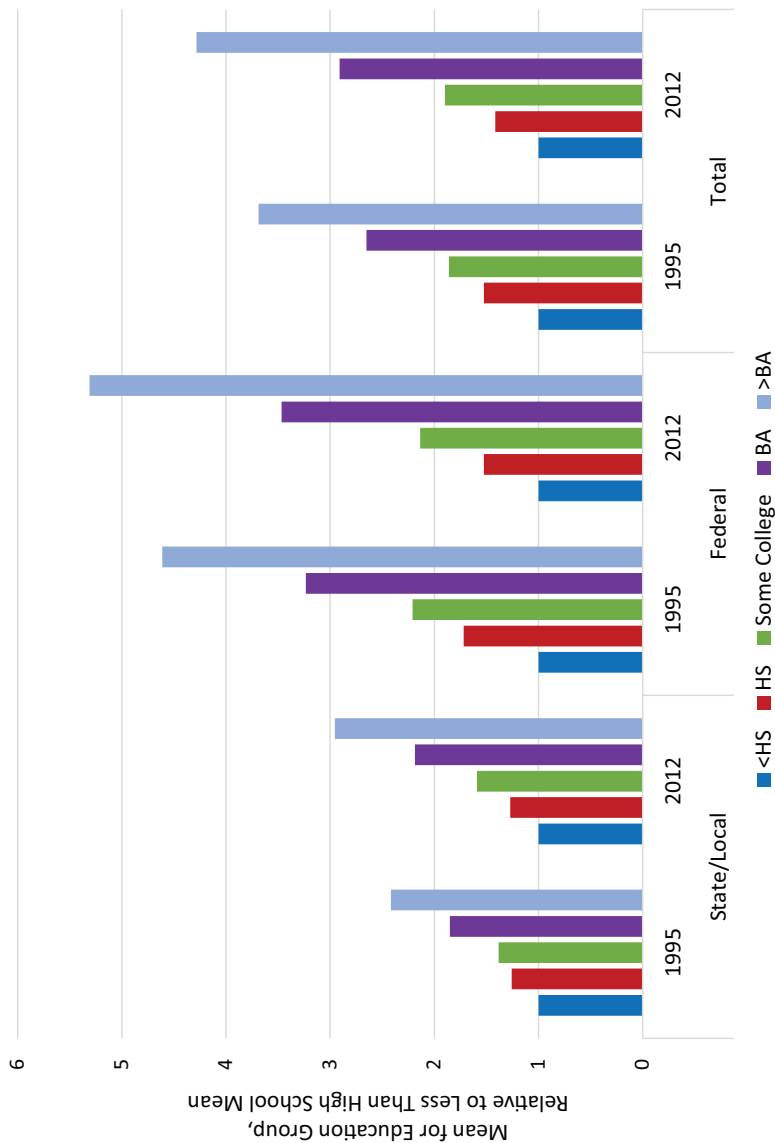


FIGURE 8-22 Average taxes paid by immigrants, ages 25-64, by education group, relative to educational attainment of less than high school.

SOURCE: Data are from the 2011-2013 March Current Population Surveys, normalized to administrative control totals.

TABLE 8-7 Average per Person Benefits Received, by Age Group and Generational Group, 1995 and 2010 (in thousands of 2012 dollars)

	State/Local Benefits			Federal Benefits		
	1995	2010	% Change	1995	2010	% Change
Ages 0-24						
1st Generation	7.6	9.1	19	1.7	2.6	49
2nd Generation	7.3	9.5	30	2.6	4.4	73
3rd+ Generation	7.1	8.8	23	2.5	4.3	68
Age 65+						
1st Generation	3.0	3.3	10	20.9	22.5	22
2nd Generation	3.6	4.2	16	24.3	33.5	38
3rd+ Generation	4.7	6.5	38	25.2	32.4	28

NOTE: Includes all government spending other than defense, interest payments, and subsidies.
SOURCE: Panel generated using Current Population Survey data pools from 2011-2013.

now cost government less, relative to the other generational groups, than they did in the 1990s.

What Will an Additional Immigrant and Descendants Pay in Taxes and Receive in Benefits in the Future?

In order to forecast taxes and benefits for an average immigrant and descendants, it is necessary to first forecast the ultimate educational attainment for young immigrants and the future educational attainment of the offspring of immigrants. The panel predicted the education of offspring as a function of parental education using regression analysis based on CPS samples 15 years apart. The earlier sample gives the education of parents born in particular regions who have children ages 10-16 living in their households. The later sample gives the education of people ages 25-31 whose parents were born in that region. Adult child education is regressed on parental education by birth region, with separate equations for native-born children versus foreign-born children. This generates equations that are used to predict a child’s ultimate educational attainment; a random error term is included in the equations to obtain realistic educational distributions for each generation. Separate regressions are used to estimate the transmission of educational attainment from foreign-born parents to foreign-born children (not shown) and, for comparative purposes, from U.S.-born parents to their U.S.-born children.

Results from this estimation are presented below as transition matrices. Table 8-8 shows the transition for U.S.-born children of an immigrant parent; Table 8-9 shows the transition for U.S.-born children of a U.S.-born parent. Each cell of the matrix shows the chance that the child attains the

TABLE 8-8 Predicted Educational Distribution of U.S.-born Children of a Foreign-born Parent, Percentages of Parental Offspring Expected to Be in an Educational Category (rows add to 100)

Parent's Education	Child's Education				
	Less Than High School	High School Graduate	Some College	Bachelor's Degree	More Than Bachelor's Degree
1. Less than high school	17.1	44.1	32.4	6.2	0.3
2. High school graduate	4.3	27.2	46.2	20.3	2.0
3. Some college	0.7	11.9	40.2	38.0	9.2
4. Bachelor's degree	0.1	2.2	21.7	46.5	29.5
5. More than bachelor's degree	0.0	0.6	8.8	37.7	52.9

NOTE: Educational distributions are the panel's predictions using the methodology described in the text introducing the table.

TABLE 8-9 Predicted Educational Distribution of U.S.-born Children of a U.S.-born Parent, Percentages of Parental Offspring Expected to Be in an Educational Category (rows add to 100)

Parent's Education	Child's Education				
	Less Than High School	High School Graduate	Some College	Bachelor's Degree	More Than Bachelor's Degree
1. Less than high school	29.4	50.9	18.4	1.3	0.0
2. High school graduate	7.6	42.2	42.2	7.8	0.2
3. Some college	1.0	16.9	50.1	28.8	3.2
4. Bachelor's degree	0.0	2.3	26.0	51.8	19.9
5. More than bachelor's degree	0.0	0.3	7.0	40.3	52.4

NOTE: Educational distributions are the panel's predictions using the methodology described in the text introducing the table.

educational level indicated in the column head, given the parent's educational attainment shown in the row stub. A strong pattern of upward educational mobility is apparent for the children of immigrants. Numbering the five education categories from 1 to 5, with 1 being the lowest and 5 the highest, the offspring of those with less than a high school education (category 1) would have an average education group of 2.3. Meanwhile, a category 2 parent could expect offspring that average 2.9, a parent of category 3 could expect offspring at 3.4, a category 4 parent could expect 4.0, and a category 5 parent's offspring average 4.4 (offspring of parents in the highest educational category have nowhere to go but down, of course). These averages are consistent with the phenomenon of reversion

to the mean in correlated measures: Those lowest in the distribution on one measure are more likely to have a large increase on the other measure, while those at the highest end of the distribution are more likely to have a decrease. Still, there is an overall trend toward increasing educational attainment with immigrant generation. To see this, imagine starting with just five parents, each in one of the parental education categories, so that their average group category is 3. If they all had the same fertility pattern, they would have offspring with an average group category of 3.4.

Comparing Tables 8-8 and 8-9 shows that children of U.S.-born parents also have upward educational mobility, but not as much as the children of immigrants. For example, the children of immigrants with less than a high school education have a 17.1 percent chance of achieving only this level (i.e., making no upward transition), while children of third-plus generation parents in category 1 have a 29.4 percent chance of only attaining that same level. Repeating the calculation in which five parents, one from each educational category, have children, the children's average group category would be only 3.2, in contrast with the 3.4 for the children of immigrants. Note that this calculation abstracts from the education distribution of the parents and only indicates relative upward educational mobility. The fact that immigrants' children appear to have more upward mobility is perhaps consistent with the narrative of immigrants coming to the United States for the specific purpose of giving their children better opportunities than they had in their home countries. If true, first generation parents may be relatively more focused on educational attainment for their children than native-born parents. This result carries through to the patterns of tax payments by generation: If second generation children go on to achieve higher levels of education, one would also expect that they will be higher earners and thus pay relatively more in taxes than other groups.

Table 8-10 provides a different perspective on how educational transmission plays out in the forecast for a sample of new immigrants ages 20-30 who have been in the United States less than 5 years. Each column shows an educational distribution. The leftmost column is the immigrants' actual education as observed in the CPS. Immigrants who are observed at ages under 25 are at first assigned their parent's observed education, as shown in the leftmost column. Their projected ultimate educational attainment after age 25 (second column in Table 8-10) can be higher or lower than this initial assignment. Although some immigrant children of highly educated immigrants may end up with less education, the overwhelming trend here is toward upward mobility (e.g., compare the second column with the first), with the share projected to be in the lowest attainment category falling to half that of their immigrant parents. The third and fourth columns show the predicted ultimate educational distribution of the children and grandchildren of the immigrants whose observed distribution is in the first column. The

TABLE 8-10 Observed and Projected Educational Distribution for Immigrants, Ages 20-30, Who Arrived in the United States in the Past 5 Years and Their Descendants

	Observed in CPS	Projected Educational Distributions		
		Immigrant	Children	Grandchildren
1. Less than high school	0.42	0.21	0.04	0.04
2. High school graduate	0.16	0.18	0.17	0.13
3. Some college	0.12	0.22	0.30	0.32
4. Bachelor's degree	0.18	0.27	0.32	0.31
5. More than bachelor's	<u>0.11</u>	<u>0.12</u>	<u>0.17</u>	<u>0.20</u>
TOTAL	1.00	1.00	1.00	1.00
Average category score	2.40	2.90	3.40	3.50

NOTE: The “average category score” is the weighted average of the education categories numbered 1 through 5, using the proportional distribution as weights.
SOURCE: Data represent both analysis of Current Population Survey data and panel’s projections.

third column, compared with the first two, reveals an upward shift between first and second generations that is similar on average (shown in the bottom row) to the half-category jump experienced by the first generation after arrival. Differences between the second and third-plus generation exist but are not as large, which is what one might expect to see in repeated application of transition matrices. The important implication of these patterns for the fiscal analysis that follows is that even an immigrant arriving with little education, whom one would expect to pay relatively less in taxes and cost relatively more in benefits, will likely have offspring with more education. That education will cost the government and taxpayers in the near term, but that investment ultimately pays off in the form of elevated tax contributions by the second and higher generations in the future. However, computations using a positive discount rate reduce the present value of those future payoffs.

How Long Do the New Immigrants Stay, and How Many U.S.-born Children Do They Add to the Population?

The final piece of the longitudinal calculation concerns the demography of the new immigrant and that immigrant’s descendants—specifically, the mortality, fertility, and migration schedules that apply to each individual. We account for the immigrant’s likelihood of survival each year into the future, of remaining in the United States (not emigrating back to the home country or to another country), and of having descendants through fertility. Similar forecasts apply to the immigrant’s descendants whose fiscal impacts

are also appropriately weighted by their probabilities of remaining alive and within the United States. In particular, we assume that any immigrant who leaves the country will take along any children younger than age 20. The mortality, fertility, and emigration probabilities are the same as those used to generate the demographic projections in Chapter 2.

Table 8-11 shows several indicators of vital rates across current first, second, and third-plus generations (labeled “Current”), plus the same indicators as observed in the mid-1990s and used in the 1997 report *The New Americans* (labeled “Circa 1990s”). Following global trends, the total fertility rate has fallen, as shown in the top left panel of Table 8-11, and fertility has also shifted toward older ages in all generational groups, as shown in the bottom left panel.³¹ The largest changes were experienced by the first generation and to some extent by the second generation. The middle panels of Table 8-11 show that the immigrant and all-native-born generational groups have also experienced longevity increases since the 1990s. Survivorship is not very different across generations, with a slight advantage for immigrants. The right-hand panels show cumulative emigration probabilities. These have risen since the 1990s time frame used by *The New Americans* (National Research Council, 1997), but the increases are small. Comparison of the cumulative probabilities of emigration over the two time horizons listed in the table, within 10 years of arrival and within 50 years, reveals that the risk of emigration decreases the longer the immigrant stays in the country. According to current statistics, 24 percent of an immigrant cohort will leave the United States within the first 10 years after arrival, whereas only an additional 7 percent leave between year 10 and year 50, for a cumulative total of 31 percent. These are the figures used in the projections of fiscal impacts for this report.

The Fiscal Impacts of a New Immigrant—Detailed Results

Estimates of the present value of the net fiscal impact associated with a new immigrant vary widely, depending on a number of assumptions. Table 8-12 captures this variation. The age of the immigrant upon arrival varies across the columns within each panel of data; the education level of the immigrant varies down the rows of each panel. The panels in Parts 1 and 2 of Table 8-12 vary assumptions about the addition of descendants and the future fiscal regime. The panels from top to bottom vary the

³¹The fertility indicator in Table 8-11, the Total Fertility Rate, measures “children per woman” implied by age-specific rates of birth in a period. In our fiscal impacts calculation, the panel counted half of the projected offspring of an immigrant as the second generation. Children with two immigrant parents will be fully counted by this technique, while a child of one immigrant parent and one native-born parent will be half-allocated to the immigrant and half to the native-born parent.

TABLE 8-11 Demographic Indicators Used in Fiscal Impact Calculations

Fertility Indicators by Generation	Mortality Indicators by Generation			Cumulative Probability of Emigration
	1st	2nd	3rd+	
Total Fertility Rate				
Circa 1990s	2.7	2.3	2.0	Within 10 Years of Arrival Circa 1990s
Current	2.3	2.0	1.9	Current
Change	-0.4	-0.4	-0.1	Change
Average Age of Age-Specific Fertility Schedule				Within 50 Years of Arrival
Circa 1990s	26.6	26.6	26.6	Circa 1990s
Current	30.2	29.1	29.1	Current
Change	3.6	2.5	2.5	Change

NOTE: The two generational groups used for the mortality indicators are first-generation immigrants (“1st”) and all native-born (2nd+).
SOURCE: Values in the rows labeled “Current” are the indicator values used in the calculations done for this report based on the 2011-2013 March Current Population Survey; values in the “Circa 1990s,” rows are those used in *The New Americans* (National Research Council, 1997).

TABLE 8-12 75-year Net Present Value Flows for Consolidated Federal, State, and Local Governments for Two Future Budget Scenarios, by Education and Age of Arrival, Varying the Treatment of Public Goods and Characteristics of an Average Immigrant (fiscal impacts are in thousands of 2012 dollars)

PART 1 CBO Long-term Budget Outlook												
	Total Impact				Immigrant				Descendants			
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.
AVERAGES BASED ON RECENT IMMIGRANTS												
No Public Goods Included in Benefits												
<HS	35	-225	-257	-117	23	-198	-257	-109	11	-26	0	-8
HS	239	-42	-164	49	140	-50	-164	11	98	8	0	39
SomCol	401	157	-155	261	236	99	-155	155	165	58	0	106
BA	495	504	-160	481	301	366	-160	330	194	138	0	150
>BA	446	994	-100	812	287	805	-100	635	159	190	0	177
Avg.	291	269	-201	259	177	196	-201	173	114	73	0	85
Benefits Include Defense, Subsidies, and Rest-of-World Payments												
<HS	-77	-294	-279	-200	-32	-246	-279	-158	-45	-47	0	-43
HS	127	-112	-187	-33	85	-99	-187	-39	42	-14	0	6
SomCol	288	82	-178	170	180	49	-178	104	107	33	0	67
BA	385	426	-186	395	245	316	-186	279	140	110	0	116
>BA	339	915	-123	726	231	754	-123	583	108	161	0	142
Avg.	180	195	-224	173	121	147	-224	123	59	48	0	50

continued

AVERAGES BASED ON ALL IMMIGRANTS												
No Public Goods Included in Benefits												
<HS	49	-239	-253	-196	32	-221	-253	-186	17	-18	0	-10
HS	271	-82	-155	-47	157	-88	-155	-65	114	6	0	19
SomCol	425	63	-144	99	249	28	-144	45	176	35	0	54
BA	540	290	-157	280	324	218	-157	195	216	72	0	85
>BA	515	648	-99	547	321	556	-99	452	194	91	0	95
Avg.	301	53	-183	58	181	27	-183	22	121	26	0	37
Benefits Include Defense, Subsidies, and Rest-of-World Payments												
<HS	-65	-299	-274	-259	-23	-266	-274	-230	-42	-33	0	-29
HS	156	-143	-177	-109	102	-133	-177	-109	55	-9	0	0
SomCol	310	2	-166	34	194	-18	-166	0	117	20	0	33
BA	427	230	-180	216	268	172	-180	150	159	57	0	66
>BA	404	588	-122	485	265	510	-122	407	139	78	0	77
Avg.	188	-8	-205	-5	125	-19	-205	-22	63	12	0	18

TABLE 8-12 Continued

	PART 2											
	No Budget Adjustments											
	Total Impact				Immigrant				Descendants			
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.
AVERAGES BASED ON RECENT IMMIGRANTS												
No Public Goods Included in Benefits												
<HS	-118	-231	-254	-185	-18	-176	-254	-115	-100	-55	0	-70
HS	13	-105	-170	-67	61	-70	-170	-29	-48	-36	0	-39
SomCol	117	35	-163	67	127	47	-163	78	-11	-12	0	-11
BA	172	283	-177	235	160	251	-177	210	12	32	0	25
>BA	140	627	-120	469	143	565	-120	427	-2	63	0	42
Avg.	45	116	-206	77	82	118	-206	92	-37	-2	0	-15
Benefits Include Defense, Subsidies, and Rest-of-World Payments												
<HS	-266	-322	-282	-295	-90	-239	-282	-179	-176	-84	0	-116
HS	-136	-198	-197	-176	-12	-132	-197	-94	-123	-65	0	-83
SomCol	-33	-63	-192	-53	55	-17	-192	12	-88	-46	0	-64
BA	26	181	-206	122	87	186	-206	144	-61	-5	0	-22
>BA	-2	523	-149	355	69	499	-149	359	-70	24	0	-4
Avg.	-103	19	-234	-36	9	54	-234	26	-112	-35	0	-62

AVERAGES BASED ON ALL IMMIGRANTS											
No Public Goods Included in Benefits											
<HS	-107	-237	-250	-219	-6	-199	-250	-177	-101	-38	-42
HS	36	-129	-160	-112	80	-105	-160	-88	-44	-24	-23
SomCol	135	-21	-151	-10	142	-15	-151	-4	-7	-7	-6
BA	204	147	-174	123	184	130	-174	107	20	17	16
>BA	187	405	-119	318	176	374	-119	293	11	30	24
Avg.	54	-28	-189	-36	93	-16	-189	-23	-38	-11	-14
Benefits Include Defense, Subsidies, and Rest-of-World Payments											
<HS	-258	-316	-276	-301	-78	-259	-276	-233	-180	-58	-68
HS	-116	-208	-187	-193	8	-164	-187	-145	-124	-44	-48
SomCol	-17	-101	-179	-96	70	-74	-1798	-62	-87	-27	-34
BA	55	68	-202	39	112	71	-202	49	-57	-3	-10
>BA	40	326	-147	236	103	314	-147	235	-63	12	1
Avg.	-96	-107	-216	-119	20	-79	-216	-80	-117	-31	-39

NOTE: The “total” figures equal the fiscal impact of the individual, starting at age 25, plus the fiscal impacts of that individual’s descendants. See accompanying text for a discussion of the difference between scenarios without and with public goods included. The discount rate used for the net present value calculations is 3 percent.

SOURCE: Values are panel generated, using the same 2011-2013 Current Population Survey data pools used for the earlier projections.

breadth of spending programs assumed to be affected by an additional immigrant, either with or without spending on public goods, and the pool of immigrants on which the analysis computes characteristics of an average immigrant. The first set of data panels in Parts 1 and 2 use the pool of recent immigrants who have arrived within the past 5 years; the second set use the pool of all first generation immigrants.

Each cell in the table is the amount, in thousands of inflation-adjusted 2012 dollars, of the net fiscal impact associated with an immigrant's arrival today under the assumptions of that data-panel's scenario. For example, the highlighted statistic of "259" in the first set of data panels of the table means that, under the CBO Long-term Budget Outlook scenario, the total fiscal impact of a new immigrant who most resembles recent immigrants in terms of average age and education creates a positive fiscal balance flow to all levels of government with an NPV of \$259,000. The cells four and eight columns to the right of this cell shows that, under these same assumptions, the projection attributes \$173,000 of this total impact to the immigrant as an individual and \$85,000 to that immigrant's descendants.³²

These are large numbers, and a comparison with the corresponding statistics that appear directly to the right of this first data panel, under the no-budget-adjustments scenario, reveals that a large part of these average fiscal impact amounts is accounted for by the assumptions made by CBO in their future fiscal scenarios. Table 8-4, presented above, indicated significant differences in the growth of benefits programs across fiscal scenarios. Application of the CBO assumptions increases estimates of an immigrant's net present value of fiscal impacts to levels that may at first glance seem unreasonably high. Because the present value of labor earnings for an average immigrant under these assumptions is in the neighborhood of a million dollars,³³ tax rates would have to be very high or benefit rates very low to produce a present value of net fiscal impact associated with that immigrant that is roughly 17.3 percent of lifetime earnings.³⁴ However, it is important to remember the timing of life-cycle fiscal flows. Working-age people pay more in taxes than they consume in benefits and, in old age, they consume more in benefits than they pay in taxes. The large expenditures

³²We have rounded the statistics in Table 8-12 to the nearest thousand dollars to enhance readability, so the total for immigrant as an individual plus that immigrant's descendants may not exactly match the total impact statistic.

³³The present value of a stream of annual earnings that starts at \$35,000 and grows at a real rate of 1 percent over 35 years of working from age 30 to 65 is equal to \$907,195 when the real discount rate is 3 percent.

³⁴During the historical period of CPS data used by the panel in Section 8.2, covering 1994 to 2013, taxes as a share of GDP hovered around 27 percent, or 18 percent at the federal level and 9 percent at the state and local level. Spending was 30 percent, split between 20 percent at the federal level (of which 4% was defense) and 10 percent at the state level.

on retirement benefits are, on average, more heavily discounted relative to tax dollars contributed during the working years. With a discount rate of 3 percent and a 35-year difference between the age at which individuals become a net fiscal positive (taxes paid are greater than benefits received) and the age at which they again become net fiscal negatives (vice versa), the net benefits are discounted to about a third of what they would be using the discount applied to the net fiscal positive years. Additionally, assuming productivity growth of 1 percent, the effective discount rate becomes 2 percent and the adjustment is less extreme.

By comparison, under the No Budget Adjustments scenario, smaller net fiscal impact estimates are produced, reflecting an assumed growth in the size of government that is more in line with historical precedent. For immigrants and descendants combined, the highlighted statistic in the first set of data panels in this scenario is \$77,000. It is noteworthy that under this scenario, the immigrant's own contribution to this number is a surplus of \$92,000, shown four columns further to the right, while the fiscal impact of that average immigrant's descendants, is a deficit of -\$15,000. These projections contrast with those presented in *The New Americans*, in which the descendants of immigrants had net positive impacts in part because of the assumption about imposed fiscal sustainability. Under the CBO Long-term Budget Outlook scenarios in Table 8-12—in which some categories of spending are projected to grow less rapidly and some taxes grow more rapidly (for a likely net effect of reduced levels of debt compared to the No Budget Adjustments scenario)—the descendants of immigrants almost universally have positive fiscal impacts on the bottom line.

Table 8-12 also reveals that, if the arrival of a new immigrant raises spending on public goods by its per capita level, the immigrant's net fiscal impact becomes less positive and may become negative. This is shown in the second panel in Parts 1 and 2, where it is assumed that an immigrant's arrival raises spending on public goods such as defense (and therefore the calculation includes the average cost of public goods as part of the immigrant's fiscal costs). The highlighted average fiscal impact on the left-hand side of this panel is \$173,000, down from \$259,000 in Part 1 in which an additional immigrant does not raise spending on public goods. In Part 2, the average fiscal impact has fallen from \$77,000 to -\$36,000. The third and fourth data panels in Table 8-12 recalculate these statistics using all first generation immigrants as the basis for computing the effect of a new immigrant. This assumption pushes all the fiscal impacts more negative because the more heterogeneous group of all living first generation immigrants has less education and is older than the group of recent arrivals. The average fiscal impact (the four highlighted data cells) across these four scenarios range from \$58,000 to -\$119,000. The stock of all first generation immigrants reflects the characteristics of both recent and further-past arrivals, and (as

discussed in Chapter 3) these characteristics have been changing over time. It is perhaps surprising that some of the numbers in these panels remain positive after weighting the calculations to include the characteristics of those earlier arrivals.

Within each of the data panels, Table 8-12 also contains detailed information about how net fiscal impacts vary by an immigrant's age at arrival and level of education. As one might expect, the net fiscal impact is less positive (or more negative) when the immigrant arrives during youth or at retirement ages and becomes more positive with higher educational attainment.³⁵ Note that there are no descendants for those arriving at age 65+ because fertility rates are zero after age 50 in the demographic projections. Those arriving at older ages may have brought children with them, but those children would be immigrants themselves and are counted as new arrivals in their own right.

Broader Patterns across Major Scenarios

Given the considerable stability in gradients by age and education, it is possible to focus on net fiscal impacts at the average age and education level in order to sharpen conclusions about robustness across scenarios.³⁶ These category averages appear as shaded and boxed areas in Table 8-12, and Figure 8-23. Figure 8-23 also shows results for the second CBO scenario, in which there is planned deficit reduction over time achieved by explicitly raising taxes and cutting benefits.

The black bars in Figure 8-23 show net fiscal impacts when spending on public goods is assumed to not increase in response to an immigrant's arrival. As discussed earlier, this scenario is arguably most reasonable when considering the marginal impact of one additional immigrant's arrival and is less reasonable when considering the arrival of many new immigrants. The gray bars show results for when spending on public goods is assumed to rise with an additional immigrant, calculated by assigning the per capita amount spent on residents to immigrants as well. Bar pairs are shown for each of the three budget scenarios: black for the scenario without assign-

³⁵The one exception to this relationship is when the BA category is compared with the >BA category for immigrants arriving at ages 0-24. For these immigrants, initial education is that of their parents. Because of reversion to the mean, having parents in the highest education category means that there is a substantial chance that the children will, on average, end up with less education than their parents.

³⁶For both age and education, the averages are weighted averages of the 75-year present values for each of 81 age groups (ages 0-80+) by five education categories, with the weights derived from either the age-by-education distribution of recent immigrants in 2011-2013 or the age of all immigrants alive, as indicated by the data panel headings in Table 8-12 and the New Arrival versus All Immigrants bars in Figure 8-23.

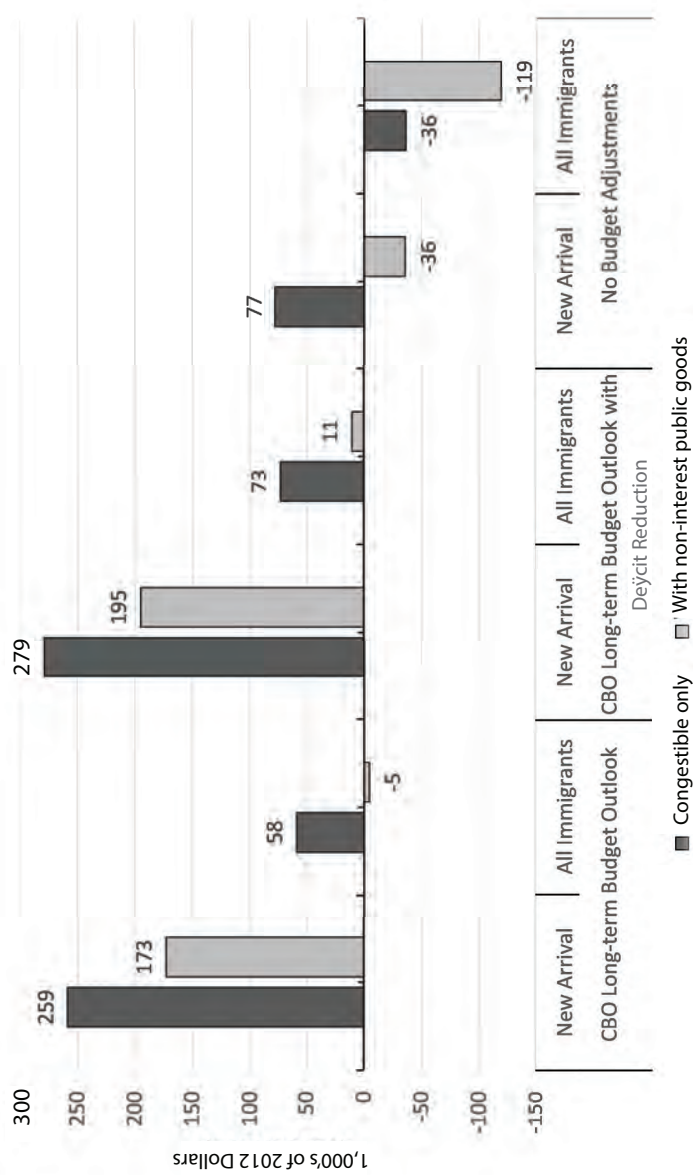


FIGURE 8-23 Net fiscal impacts of immigration, by budget scenario, treatment of public goods, and average characteristics of new immigrants.

ing public goods (“congestible only”) and gray for the scenario with cost of public goods assigned to immigrants. The pairs are grouped by the two measures of an average immigrant’s characteristics: first by whether just recent arrivals are pooled or all first-generation immigrants currently alive are included, then by the three budget outlook scenarios.

Figure 8-23 indicates that estimates of an immigrant’s net fiscal impact vary fairly widely across scenarios—from +\$279,000 to −\$119,000. The average of the 12 estimates in Figure 8-23 is \$77,000, and the standard deviation is \$125,000.³⁷ Shifting the pool from which one calculates characteristics of an average immigrant has a relatively large impact on the final estimate. Assuming that a new immigrant resembles recent immigrants yields a more positive net fiscal impact than does assuming the new immigrant is drawn from the entire stock of first generation immigrants currently in the country.

The choice of budget or fiscal adjustment scenario is also important. Under the CBO-based scenarios, the net fiscal impacts are higher (more positive) than under the scenario with no budget adjustment because spending grows less rapidly than taxes in the former than in the latter. Note that all three of these scenarios assume unsustainable increases in deficits and debt over time, although the No Budget Adjustments scenario reaches unrealistic levels of debt much faster than the CBO scenarios. The CBO “extended baseline” model—which is the basis for the first (Long-term Budget Outlook) scenario in Figure 8-23, and in which interactions between fiscal flows and projected economic growth are estimated—shows the federal-debt-to-GDP ratio reaching 100 percent by 2036 and 219 percent by the end of the 75-year projection window. The ratios are much larger for the No Budget Adjustments scenario, and a little bit smaller for the CBO scenario with deficit reduction.

The Fiscal Impact of Immigrants Relative to Natives

Thus far in Section 8.3, we have focused on whether an additional immigrant will benefit or be a drain on public finances. The results of the panel’s projections show that the age and education characteristics of entering immigrants have a major influence on the answer to this question. This leads naturally to another question: if new immigrants have the same age and education as native-born persons, will their fiscal impacts be the same? This question is of interest for assessing whether it is immigrant status that is relevant for understanding fiscal impacts or whether it is just a matter of adding an additional person to the economy. In other words, is it simply

³⁷The standard error of the mean is the sample standard deviation divided by the square root of N , here equal to \$36,000.

age and education that distinguishes immigrants from natives as far as fiscal impacts are concerned, or are there other differences? Certainly there are statutory differences, in that many benefit programs prohibit paying benefits to immigrants at all or before some waiting period, but there is no similar prohibition on collecting taxes from immigrants. This would suggest that an immigrant would be less costly than a native with exactly the same age and education characteristics at a particular point in time. However, there may be other differences beyond just age and education. Similar immigrant and native levels of educational attainment might be associated with different earnings and thus taxes paid; for example, otherwise comparable groups might have different levels of language proficiency that would impact earnings, or there may be other unobservable differences. Adding a future-looking perspective, there are additional demographic differences between immigrants and natives that will be reflected in the fiscal calculation: they have somewhat different levels of fertility and mortality, and immigrants may emigrate out of the population, which is far less likely for natives. Thus, it becomes an empirical question whether there are consistent differences in the net fiscal impact of immigrants and natives of the same age and education.

The panel explored this question. Results are summarized in Table 8-13, which shows the projected total net fiscal impacts for an immigrant entering the country at age 25, versus a native-born person observed from the time he or she reaches age 25. Note that this calculation is not affected by the past of these hypothetical 25-year-olds: The fact that the U.S. government did not have to pay for the immigrant's education is not included; nor is the fact that the native-born 25-year-old had native-born taxpaying parents who helped finance his or her education. These past issues are set aside to follow only the immigrant's and the native's impact on government budgets from their 25th year on. The calculation is broken out to show the fiscal impact component attributed to the 25-year-old as an individual and the component attributed to that individual's descendants. As in Table 8-12, net fiscal impacts for the immigrant and the native-born individual are shown for each educational attainment category under two budget scenarios (CBO Long-term Budget Outlook and the No Budget Adjustments scenario). Here, pure public goods are omitted for everyone, natives and immigrants (top panel) or assigned equally to everyone (bottom panel). Differences in the fiscal impacts of the immigrant and the native-born are shown in shaded bars, positive numbers indicating cases in which that the immigrant is better for fiscal balances and negative numbers indicating cases in which the native is better.

To understand the patterns, first look at the columns labeled "Individual," which show the fiscal impact for the immigrant or native as an individual (excluding fiscal impact of descendants) for the scenario in which

TABLE 8-13 75-year Net Present Value Flows Comparing an Immigrant Arriving at Age 25 with a Native-born Person Followed from Age 25, for Consolidated Government Finances under Two Future Budget Scenarios, by Educational Attainment, Varying the Treatment of Public Goods (in thousands of 2012 dollars)

		CBO Long-term Budget Outlook				No Budget Adjustments		
		Individual		Descendants		Total	Individual	Descendants
		Total						
No Public Goods Included in Benefits								
<HS	Immigrant	-186	-109	-77	-246	-87	-159	
	Native	<u>-388</u>	<u>-251</u>	<u>-137</u>	<u>-427</u>	<u>-234</u>	<u>-193</u>	
	Imm-Nat	202	142	60	181	147	34	
HS	Immigrant	72	49	23	-79	21	-100	
	Native	<u>14</u>	<u>61</u>	<u>-47</u>	<u>-139</u>	<u>-7</u>	<u>-132</u>	
	Imm-Nat	58	-12	70	60	28	32	
SomCol	Immigrant	347	205	142	109	136	-27	
	Native	<u>262</u>	<u>208</u>	<u>54</u>	<u>26</u>	<u>97</u>	<u>-71</u>	
	Imm-Nat	85	-3	88	83	39	44	
BA	Immigrant	821	514	307	433	361	72	
	Native	<u>895</u>	<u>684</u>	<u>211</u>	<u>473</u>	<u>446</u>	<u>27</u>	
	Imm-Nat	-74	-170	96	-40	-85	45	
>BA	Immigrant	1,362	972	390	795	670	125	
	Native	<u>1,344</u>	<u>1,020</u>	<u>324</u>	<u>766</u>	<u>674</u>	<u>92</u>	
	Imm-Nat	18	-48	66	29	-4	33	

continued

Benefits Include Defense, Subsidies, and Rest-of-World Payments							
<HS	Immigrant	-302	-164	-138	-398	-158	-240
	Native	<u>-503</u>	<u>-313</u>	<u>-190</u>	<u>-580</u>	<u>-315</u>	<u>-265</u>
	Imm-Nat	201	149	52	182	157	25
HS	Immigrant	-44	-6	-38	-231	-50	-181
	Native	<u>-191</u>	<u>-1</u>	<u>-100</u>	<u>-292</u>	<u>-88</u>	<u>-204</u>
	Imm-Nat	57	-5	62	61	38	23
SomCol	Immigrant	231	150	81	-43	65	-108
	Native	<u>147</u>	<u>146</u>	<u>1</u>	<u>-127</u>	<u>16</u>	<u>-143</u>
	Imm-Nat	84	4	80	84	49	35
BA	Immigrant	705	459	246	281	290	-9
	Native	<u>780</u>	<u>622</u>	<u>158</u>	<u>320</u>	<u>365</u>	<u>-45</u>
	Imm-Nat	-75	-163	88	-39	-75	36
>BA	Immigrant	1,246	917	329	643	599	44
	Native	<u>1,229</u>	<u>958</u>	<u>271</u>	<u>613</u>	<u>593</u>	<u>20</u>
	Imm-Nat	17	-41	58	30	6	24

TABLE 8-13 Continued

	CBO Long-term Budget Outlook			No Budget Adjustments		
	Total	Individual	Descendants	Total	Individual	Descendants
Benefits Include Defense, Subsidies, Rest-of-World Payments, and Interest Payments						
<HS	Immigrant	-716	-316	-522	-216	-306
	Native	<u>-915</u>	<u>-490</u>	<u>-705</u>	<u>-381</u>	<u>-324</u>
	Imm-Nat	199	174	183	165	18
HS	Immigrant	-458	-158	-355	-108	-247
	Native	<u>-513</u>	<u>-178</u>	<u>-417</u>	<u>-154</u>	<u>-263</u>
	Imm-Nat	55	20	62	46	16
SomCol	Immigrant	-183	-2	-167	7	-174
	Native	<u>-265</u>	<u>-31</u>	<u>-252</u>	<u>-50</u>	<u>-202</u>
	Imm-Nat	82	29	85	57	28
BA	Immigrant	291	307	157	232	-75
	Native	<u>368</u>	<u>445</u>	<u>195</u>	<u>299</u>	<u>-104</u>
	Imm-Nat	-77	-138	-38	-67	29
>BA	Immigrant	832	765	519	541	-22
	Native	<u>817</u>	<u>781</u>	<u>488</u>	<u>527</u>	<u>-39</u>
	Imm-Nat	15	-16	31	14	17

NOTE: The “total” figures equal the fiscal impact of the individual, starting at age 25, plus the fiscal impacts of that individual’s descendants. See accompanying text for a discussion of the difference between scenarios without and with public goods included. The discount rate used for the net present value calculations is 3 percent.

SOURCE: Values are panel generated using 2011–2013 Current Population Survey data pools for the projections.

pure public goods are left out (top panel). Notice that these values are more similar for immigrant and native within the same educational category than they are for either individual across educational categories. The fiscal impact is negative only for individuals in the lowest educational attainment category (less than high school, <HS). This is true for both natives and immigrants, with values of $-\$251,000$ for the fiscal impact of a native-born person and $-\$109,000$ for an immigrant. The low-skilled immigrant is less costly than the low-skilled native mainly because the former will not qualify for as many welfare programs. For all educational attainment groups from completing high school (HS) and higher, net impacts are positive and greater for the native-born person—but the differences between immigrant and native-born are relatively small. For example, strictly from the perspective of fiscal balance, an immigrant with a bachelor's degree (BA) (positive fiscal impact of $\$514,000$) is preferable over a native with only some college (positive impact of $\$208,000$).

In contrast, as shown in the next column, descendants of the immigrant always contribute more to fiscal balances than do the descendants of the native-born person, no matter what the individual's educational attainment is, which budget scenario is assumed, or how public goods are treated. This is mostly due to the greater average educational attainment of an immigrant's descendants, compared to the average educational attainment of descendants of the native born. To a lesser extent, there is also a small advantage for second generation persons in estimated earnings, and thus tax payments, within education category, compared to third-plus generation persons.

Combining the fiscal impact of the individual with that of the individual's descendants (the "Total" columns in Table 8-13), one can see that the hypothetical immigrant in this projection is almost always more positive (or less negative), from a fiscal balance perspective, than the hypothetical native-born person. The exception is the BA educational attainment category. Nonetheless, the lesson to draw from these projections is that the variability in fiscal impact is much greater across education categories than between immigrants and natives with the same educational attainment. Under the conditions of this projection, the major driver of fiscal impacts is educational attainment, not immigrant status.

Note that the above discussion does not touch on the results for the lower half of Table 8-13, in which most types of public goods are included as benefits paid for by both the immigrant and the native-born individual and to their descendants. This is because the patterns discussed are similar for the scenario with public goods costs included, just with more negative fiscal impacts. Because the same average value of the additional public goods is assigned to immigrants, natives, and descendants alike, the only differences for that scenario, compared to the scenario with no public

goods, will be driven by demographic differences, such as different fertility, mortality, and emigration, and those differences are slight.

Looking within Net Impacts

It is helpful to disaggregate the results of the panel's projection into taxes paid versus benefits received and also into impact by level of government. Tables 8-14, 8-15, and 8-16 do this for the accounting scenario in which an additional immigrant does not trigger additional spending on public goods, and therefore the cost of public goods is not added into the benefits received. Tables 8-17 and 8-18 present total and federal-only fiscal impacts when the alternative scenario is used, in which a new immigrant is assumed to increase spending on public goods by the per capita cost of those goods. Throughout Tables 8-14 through 8-18, the analysis calculates the characteristics of an average immigrant by drawing from the CPS pool of recent immigrants (CPS survey data for 2011 through 2013).

In all five tables, as in Tables 8-12 and 8-13 above, many of these fiscal impact estimates may seem large, but recall that they are the sums of discounted (NPV) flows over 75 years. For comparison, consider the lifetime earnings of a native-born worker without a college degree who earns \$35,000 a year. Over a 40-year working life from ages 25 to 65, assuming an average tax rate of 25 percent in income, property, sales, corporate and other taxes, plus another 7.65 percent for employees' contributions for FICA taxes, this worker will accumulate tax payments of \$457,000 in undiscounted dollars. Assuming an annual rate of real growth of 1 percent and a discount rate of 3 percent, the present value of this flow of taxes becomes \$318,000. This is roughly consistent with the total taxes paid in the No Budget Adjustments scenario in Table 8-14 for a new immigrant who arrives ages 0-24. The 75-year present value of taxes paid by that person is \$283,000 if his parent had less than a high school education, \$350,000 if the parent had a high school diploma, and \$417,000 if the parent had some college. (These figures are from the column under the No Budget Adjustments scenario for just the immigrant's own flows, without the flows from dependents. Adding the future flow of taxes in the descendants column increases the NPV of taxes to the estimates shown in the Total Impact column.)

These tables also illustrate the differential impacts of education on taxes paid versus benefits received. For instance, in the No Budget Adjustments section of Table 8-14, an immigrant who arrives during working ages (i.e., ages 25-64) with a BA will pay much more in taxes than an immigrant of similar age with less than a high school education (\$704,000 versus \$258,000). The educational gradient in the receipt of benefits, which is inverted with higher education groups receiving less in benefits, is much less

TABLE 8-14 75-year Present Value Flows for Consolidated Federal, State, and Local Governments for Three Future Budget Scenarios, by Grouped Ages of Immigrant Arrival in the United States, with Public Goods Excluded from Incremental Benefit Costs to Immigrants and Descendants (flows in thousands of 2012 dollars)

CBO Long-term Budget Outlook									
	Total Impact			Immigrant			Descendants		
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	Avg.
Total Net									
<HS	35	-225	-257	-117	23	-198	-257	-109	-8
HS	239	-42	-164	49	140	-50	-164	11	39
SomCol	401	157	-155	261	236	99	-155	155	106
BA	495	504	-160	481	301	366	-160	330	150
>BA	446	994	-100	812	287	805	-100	635	177
Avg.	291	269	-201	259	177	196	-201	173	85
Taxes									
<HS	778	340	38	503	382	216	38	272	230
HS	942	475	33	620	482	318	33	365	255
SomCol	1,096	659	40	844	576	438	40	491	354
BA	1,159	978	53	1,005	638	682	53	649	355
>BA	1,088	1,445	78	1,314	618	1,101	78	939	375
Avg.	989	771	43	822	521	543	43	515	307
Benefits									
<HS	743	565	295	619	358	414	295	381	238
HS	704	517	197	570	342	368	197	354	216
SomCol	696	501	194	583	340	340	194	336	247
BA	665	474	213	524	337	316	213	319	205
>BA	641	450	179	503	331	296	179	304	198
Avg.	698	502	244	563	344	347	244	342	221

continued

TABLE 8-14 Continued

CBO Long-term Budget Outlook with Deficit Reduction												
	Total Impact				Immigrant				Descendants			
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.
Total Net												
<HS	56	-212	-254	-101	34	-189	-254	-99	22	-23	0	-2
HS	263	-28	-162	67	153	-40	-162	22	110	13	0	45
SomCol	427	174	-151	283	250	110	-151	168	178	64	0	115
BA	522	525	-157	503	316	381	-157	345	206	145	0	159
>BA	472	1,023	-97	840	302	826	-97	654	170	197	0	186
Avg.	316	288	-199	279	190	209	-199	186	126	79	0	93
Taxes												
<HS	791	345	38	510	388	218	38	276	404	127	0	235
HS	959	481	33	630	490	321	33	370	470	160	0	260
SomCol	1,116	668	40	858	585	443	40	498	531	225	0	361
BA	1,181	992	53	1,021	650	690	53	659	531	302	0	362
>BA	1,108	1,467	79	1,336	629	1,117	79	954	478	351	0	383
Avg.	1,007	782	43	835	530	550	43	522	477	232	0	313
Benefits												
<HS	735	556	292	611	353	407	292	375	382	149	0	236
HS	697	509	195	563	337	361	195	348	360	147	0	215
SomCol	689	494	192	576	336	333	192	330	353	161	0	246
BA	658	467	211	517	333	310	211	314	325	157	0	204
>BA	636	444	176	496	327	290	176	299	309	154	0	197
Avg.	691	494	242	556	339	341	242	336	352	153	0	220

No Budget Adjustments									
Total Impact				Immigrant			Descendants		
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	
Total Net									
<HS	-118	-231	-254	-185	-18	-176	-254	-115	0
HS	13	-105	-170	-67	61	-70	-170	-29	0
SomCol	117	35	-163	67	127	47	-163	78	0
BA	172	283	-177	235	160	251	-177	210	0
>BA	140	627	-120	469	143	565	-120	427	0
Avg.	45	116	-206	77	82	118	-206	92	0
Taxes									
<HS	514	258	37	349	283	181	37	213	0
HS	616	352	30	432	350	258	30	282	0
SomCol	716	479	35	576	417	348	35	372	0
BA	746	704	47	697	451	532	47	493	0
>BA	693	1,025	64	909	428	827	64	695	0
Avg.	643	558	39	569	375	424	39	391	0
Benefits									
<HS	631	489	291	534	300	358	291	328	0
HS	603	458	200	499	290	328	200	311	0
SomCol	599	444	198	509	290	301	198	293	0
BA	574	421	224	462	291	281	224	283	0
>BA	552	397	185	440	286	262	185	268	0
Avg.	598	442	246	491	292	307	246	299	0

NOTE: The “total” figures equal the fiscal impact of the individual immigrant plus the fiscal impacts of that individual’s descendants. See accompanying text for a discussion of the difference among scenarios without and with public goods included. The discount rate used for the net present value calculations is 3 percent.

SOURCE: The values are panel generated using Current Population Survey data pools from 2011-2013.

TABLE 8-15 75-year Present Value Flows for Federal Government Only, for Three Future Budget Scenarios, by Grouped Ages of Immigrant Arrival in the United States, with Public Goods Excluded from Incremental Benefit Costs to Immigrants and Descendants (flows in thousands of 2012 dollars)

CBO Long-term Budget Outlook														
	Total Impact				Immigrant				Descendants					
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.		
Federal Net														
<HS	165	-192	-229	-43	13	-215	-229	-119		152	23	0	76	
HS	335	-53	-152	76	108	-109	-152	-36		227	56	0	112	
SomCol	474	109	-149	271	189	2	-149	85		285	107	0	187	
BA	570	399	-160	434	264	220	-160	222		306	178	0	212	
>BA	544	793	-104	703	271	567	-104	467		272	226	0	236	
Avg.	388	205	-186	256	149	87	-186	99		239	118	0	157	
Federal Taxes														
<HS	540	209	15	334	252	121	15	168		288	87	0	166	
HS	670	310	15	423	329	197	15	236		342	114	0	187	
SomCol	791	449	18	596	402	286	18	332		390	163	0	264	
BA	849	700	23	724	456	476	23	456		393	224	0	269	
>BA	800	1,073	45	974	446	810	45	688		354	263	0	285	
Avg.	710	541	19	582	362	372	19	354		348	170	0	228	
Federal Benefits														
<HS	376	400	244	377	239	336	244	287		137	64	0	90	
HS	336	363	167	348	221	306	167	272		115	57	0	75	
SomCol	317	340	167	324	213	284	167	247		105	56	0	77	
BA	279	301	182	291	192	256	182	234		87	45	0	57	
>BA	256	280	149	271	175	243	149	221		81	37	0	50	
Avg.	322	337	204	326	213	285	204	255		109	52	0	71	

continued

CBO Long-term Budget Outlook with Deficit Reduction												
	Total Impact			Immigrant			Descendants					
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.
Federal Net												
<HS	186	-179	-226	-27	24	-206	-226	-110	162	27	0	82
HS	359	-38	-150	93	121	-99	-150	-26	238	60	0	119
SomCol	501	126	-146	293	203	14	-146	97	298	112	0	195
BA	598	420	-157	457	279	235	-157	236	319	185	0	220
>BA	570	822	-101	731	286	589	-101	487	284	233	0	244
Avg.	413	224	-186	277	162	100	-183	112	251	123	0	165
Federal Taxes												
<HS	553	213	15	342	258	123	15	172	296	90	0	170
HS	687	317	15	433	337	200	15	241	350	116	0	192
SomCol	811	459	18	610	411	292	18	339	400	167	0	270
BA	871	714	23	741	467	485	23	465	403	230	0	276
>BA	820	1,096	46	995	457	826	46	702	363	270	0	293
Avg.	728	553	19	596	370	379	19	361	358	174	0	234
Federal Benefits												
<HS	367	392	241	370	234	329	241	282	133	63	0	88
HS	328	355	165	340	216	299	165	266	112	56	0	74
SomCol	310	332	165	317	208	278	165	242	102	55	0	75
BA	273	294	180	284	188	250	180	229	85	44	0	55
>BA	251	274	147	265	171	237	147	216	80	37	0	49
Avg.	315	329	202	319	208	278	202	250	107	51	0	69

TABLE 8-15 Continued

No Budget Adjustments									
Total Impact									
	Immigrant				Descendants				Avg.
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	
Federal Net									
<HS	-2	-205	-228	-120	-23	-193	-228	-123	3
HS	101	-117	-158	-44	38	-124	-158	-70	26
SomCol	188	-9	-158	78	92	-41	-158	17	61
BA	247	188	-176	194	136	116	-176	113	81
>BA	235	447	-123	374	139	348	-123	278	96
Avg.	135	57	-191	76	64	17	-191	26	60
Federal Taxes									
<HS	317	142	15	207	169	95	15	121	86
HS	391	208	13	264	217	148	13	167	97
SomCol	463	296	15	365	265	211	15	230	135
BA	490	460	19	456	293	345	19	319	137
>BA	457	699	34	615	281	564	34	470	146
Avg.	413	357	17	364	236	269	17	247	117
Federal Benefits									
<HS	320	347	243	327	192	289	243	244	83
HS	289	325	171	308	179	272	171	237	71
SomCol	275	305	173	287	173	252	173	213	74
BA	243	273	195	261	157	228	195	206	56
>BA	222	252	157	241	142	215	157	192	49
Avg.	278	300	208	288	173	251	208	221	68

NOTE: The “total” figures equal the fiscal impact of the individual immigrant plus the fiscal impacts of that individual’s descendants. See accompanying text for a discussion of the difference among scenarios without and with public goods included. The discount rate used for the net present value calculations is 3 percent.

SOURCE: The values are panel generated using Current Population Survey data pools from 2011-2013.

TABLE 8-16 75-year Present Value Flows for State and Local Governments only, for Three Future Budget Scenarios, by Grouped Ages of Immigrant Arrival in the United States, with Public Goods Excluded from Incremental Benefit Costs to Immigrants and Descendants (flows in thousands of 2012 dollars)

CBO Long-term Budget Outlook														
	Total Impact					Immigrant					Descendants			
	0-24	25-64	65+	Avg.		0-24	25-64	65+	Avg.		0-24	25-64	65+	Avg.
State/Local Net														
<HS	-130	-33	-28	-74		10	16	-28	10		-141	-49	0	-84
HS	-96	11	-12	-26		32	58	-12	47		-128	-48	0	-74
SomCol	-73	48	-5	-10		47	96	-5	70		-120	-48	0	-80
BA	-75	105	0	47		37	146	0	108		-113	-41	0	-61
>BA	-98	202	4	109		16	238	4	168		-114	-36	0	-59
Avg.	-97	65	-16	2		28	109	-16	74		-125	-44	0	-72
State/Local Taxes														
<HS	237	132	23	168		130	94	23	104		107	37	0	64
HS	272	165	18	196		153	121	18	129		119	43	0	68
SomCol	305	209	22	249		174	152	22	159		131	58	0	90
BA	310	278	30	280		182	206	30	193		127	72	0	87
>BA	287	372	33	341		172	291	33	251		115	81	0	90
Avg.	279	229	24	239		159	171	24	161		120	58	0	78
State/Local Benefits														
<HS	367	164	51	242		119	78	51	94		248	86	0	148
HS	368	154	30	233		121	63	30	81		247	91	0	141
SomCol	379	161	27	259		128	56	27	88		251	106	0	170
BA	385	176	31	233		145	60	31	85		240	113	0	148
>BA	385	170	29	232		156	53	29	83		229	117	0	148
Avg.	376	165	40	237		131	62	40	87		245	102	0	150

continued

TABLE 8-16 Continued

CBO Long-term Budget Outlook with Deficit Reduction												
	Total Impact				Immigrant				Descendants			
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.
State/Local Net												
<HS	-130	-33	-28	-74	10	16	-28	10	-141	-49	0	-84
HS	-96	11	-12	-26	32	58	-12	47	-128	-48	0	-74
SomCol	-73	48	-5	-10	47	96	-5	70	-120	-48	0	-80
BA	-75	105	0	47	37	146	0	108	-113	-41	0	-61
>BA	-98	202	4	109	16	238	4	168	-114	-36	0	-59
Avg.	-97	65	-16	2	28	108	-16	74	-125	-44	0	-72
State/Local Taxes												
<HS	237	132	23	168	130	94	23	104	107	37	0	64
HS	272	165	18	196	153	121	18	129	119	43	0	68
SomCol	305	209	22	249	174	152	22	159	131	58	0	90
BA	310	278	30	280	182	206	30	193	127	72	0	87
>BA	287	372	33	341	172	291	33	251	115	81	0	90
Avg.	279	229	24	239	159	171	24	161	120	58	0	78
State/Local Benefits												
<HS	367	164	51	242	119	78	51	94	248	86	0	148
HS	368	154	30	223	121	63	30	81	247	91	0	141
SomCol	379	161	27	259	128	56	27	88	251	106	0	170
BA	385	173	31	233	145	60	31	85	240	113	0	148
>BA	385	170	29	232	156	53	29	83	229	117	0	148
Avg.	376	165	40	237	131	62	40	87	245	102	0	150

No Budget Adjustments												
	Total Impact				Immigrant				Descendants			
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.
State/Local Net												
<HS	-116	-27	-27	-65	5	17	-27	8	-121	-44	0	-73
HS	-89	12	-12	-23	23	55	-12	42	-112	-43	0	-65
SomCol	-71	44	-5	-11	35	88	-5	61	-106	-44	0	-72
BA	-75	96	-1	41	24	135	-1	97	-99	-39	0	-56
>BA	-94	181	3	96	4	216	3	149	-98	-36	0	-53
Avg.	-90	59	-15	2	19	100	-15	66	-109	-41	0	-64
State/Local Taxes												
<HS	196	115	22	142	113	86	22	93	83	29	0	50
HS	225	144	17	168	133	110	17	115	92	34	0	52
SomCol	253	183	20	211	152	138	20	141	101	45	0	70
BA	256	244	28	241	158	188	28	174	98	56	0	67
>BA	235	326	30	294	148	263	30	225	88	63	0	69
Avg.	230	201	23	205	138	156	23	144	92	45	0	61
State/Local Benefits												
<HS	312	142	49	207	108	69	49	84	204	73	0	123
HS	314	133	29	191	110	56	29	73	203	77	0	118
SomCol	324	139	26	222	117	50	26	80	207	89	0	142
BA	330	148	29	200	134	53	29	77	196	95	0	123
>BA	330	146	27	198	144	47	27	76	186	98	0	123
Avg.	321	142	38	203	120	55	38	78	201	86	0	125

NOTE: The “total” figures equal the fiscal impact of the individual immigrant plus the fiscal impacts of that individual’s descendants. See accompanying text for a discussion of the difference among scenarios without and with public goods included. The discount rate used for the net present value calculations is 3 percent.

SOURCE: The values are panel generated using Current Population Survey data pools from 2011-2013.

TABLE 8-17 75-year Present Value Flows for Consolidated Federal, State, and Local Governments for Three Future Budget Scenarios, by Grouped Ages of Immigrant Arrival in the United States, with Public Goods (defense, federal subsidies, and rest-of-world payments) Included in Incremental Benefit Costs to Immigrants and Descendants (flows in thousands of 2012 dollars)

CBO Long-term Budget Outlook											
	Total Impact				Immigrant				Descendants		
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+
Total Net											
<HS	-77	-254	-279	-201	-32	-247	-279	-158	-45	-47	0
HS	127	-112	-187	-33	84	-99	-187	-39	42	-14	0
SomCol	288	82	-178	171	180	50	-178	104	108	33	0
BA	384	426	-183	395	245	316	-183	279	139	110	0
>BA	339	915	-123	725	231	754	-123	583	108	161	0
Avg.	180	195	-224	173	121	147	-224	123	59	48	0
Taxes											
<HS	778	340	38	503	382	216	38	272	396	125	0
HS	942	475	33	620	482	318	33	365	461	157	0
SomCol	1,096	659	40	844	576	438	40	491	521	220	0
BA	1,159	978	53	1,005	638	682	53	649	521	296	0
>BA	1,088	1,445	78	1,314	618	1,101	78	939	469	344	0
Avg.	989	771	43	822	521	543	43	515	468	228	0
Benefits											
<HS	855	634	317	703	414	462	317	430	441	172	0
HS	816	587	220	653	397	416	220	404	418	170	0
SomCol	809	576	218	674	396	389	218	387	413	188	0
BA	775	551	236	610	394	365	236	370	381	186	0
>BA	749	529	201	589	388	346	201	356	361	183	0
Avg.	809	576	267	649	400	396	267	392	409	179	0

continued

CBO Long-term Budget Outlook with Deficit Reduction												
	Total Impact				Immigrant				Descendants			
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.
Total Net												
<HS	-54	-280	-276	-186	-21	-236	-276	-148	-33	-43	0	-36
HS	153	-97	-185	-15	98	-88	-185	-28	55	-9	0	13
SomCol	317	101	-175	193	195	62	-175	117	121	39	0	76
BA	415	449	-180	419	261	331	-180	294	153	118	0	125
>BA	367	946	-120	755	246	776	-120	603	121	169	0	152
Avg.	207	215	-221	195	135	161	-221	136	72	54	0	59
Taxes												
<HS	791	345	38	510	388	218	38	276	404	127	0	235
HS	959	481	33	630	490	321	33	370	470	160	0	260
SomCol	1,116	668	40	858	585	443	40	498	531	225	0	361
BA	1,181	992	53	1,021	650	690	53	659	531	302	0	362
>BA	1,108	1,467	79	1,336	629	1,117	79	954	478	351	0	383
Avg.	1,007	782	43	835	530	550	43	522	477	232	0	313
Benefits												
<HS	844	624	315	693	408	454	315	423	436	170	0	270
HS	806	578	217	644	392	409	217	397	414	169	0	247
SomCol	800	567	215	665	390	381	215	381	409	186	0	284
BA	766	544	234	602	389	359	234	364	378	184	0	238
>BA	741	522	199	581	383	340	199	351	358	181	0	231
Avg.	800	567	264	640	394	389	264	386	405	178	0	254

No Budget Adjustments

NOTE: The “total” figures equal the fiscal impact of the individual immigrant plus the fiscal impacts of that individual’s descendants. See accompanying text for a discussion of the difference among scenarios without and with public goods included. The discount rate used for the net present value calculations is 3 percent.

SOURCE: The values are panel generated using Current Population Survey data pools from 2011-2013.

TABLE 8-18 75-year Present Value Flows for Federal Government Only, for Three Future Budget Scenarios, by Grouped Ages of Immigrant Arrival in the United States, with Public Goods (defense, federal subsidies, and rest-of-world payments) Included in Incremental Benefit Costs to Immigrants and Descendants (flows in thousands of 2012 dollars)

CBO Long-term Budget Outlook													
	Total Impact				Immigrant				Descendants				
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	
Federal Net	<HS	53	-261	-251	-127	-43	-263	-251	-168	95	2	0	42
	HS	23	-123	-175	-7	52	-157	-175	-86	170	34	0	79
	SomCol	361	34	-173	180	134	-47	-173	34	228	81	0	147
	BA	460	321	-183	348	208	170	-186	171	252	151	0	177
	>BA	436	714	-127	616	215	517	-127	415	222	197	0	201
	Avg.	277	131	-209	171	93	39	-209	48	184	93	0	122
Federal Taxes	<HS	540	209	15	334	252	121	15	168	288	87	0	166
	HS	670	310	15	423	329	197	15	236	342	114	0	187
	SomCol	791	449	18	596	402	286	18	332	390	163	0	264
	BA	849	700	23	724	456	476	23	456	393	224	0	269
	>BA	800	1,073	45	974	446	810	45	688	354	263	0	285
	Avg.	710	541	19	582	362	372	19	354	348	170	0	228
Federal Benefits	<HS	487	470	266	461	294	384	266	337	193	85	0	124
	HS	447	433	189	430	276	354	189	322	171	79	0	108
	SomCol	430	415	191	415	268	333	191	299	162	82	0	117
	BA	389	378	206	376	248	306	206	285	141	73	0	91
	>BA	363	359	172	357	231	293	172	273	132	66	0	84
	Avg.	433	411	227	412	269	334	227	306	165	77	0	106

continued

TABLE 8-18 Continued

CBO Long-term Budget Outlook with Deficit Reduction												
	Total Impact				Immigrant				Descendants			
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.
Federal Net												
<HS	77	-247	-248	-109	-31	-253	-248	-158	107	6	0	49
HS	249	-107	-172	12	66	-146	-172	-75	184	39	0	87
SomCol	390	53	-170	203	148	-34	-170	47	241	87	0	156
BA	490	344	-180	372	224	185	-180	186	266	158	0	186
>BA	465	744	-124	646	231	539	-124	435	234	205	0	210
Avg.	304	151	-206	193	107	52	-206	62	197	99	0	131
Federal Taxes												
<HS	553	213	15	342	258	123	15	172	296	90	0	170
HS	687	317	15	433	337	200	15	241	350	116	0	192
SomCol	811	459	18	610	411	292	18	339	400	167	0	270
BA	871	714	23	741	467	485	23	465	403	230	0	276
>BA	820	1,096	46	995	457	826	46	7020	363	270	0	293
Avg.	728	553	19	596	370	379	19	361	358	174	0	234
Federal Benefits												
<HS	4,477	460	263	452	289	376	263	330	188	84	0	122
HS	438	424	187	421	271	346	187	316	167	78	0	106
SomCol	421	406	188	407	263	326	188	293	158	80	0	114
BA	381	371	203	368	243	299	203	279	138	71	0	89
>BA	356	352	170	350	227	287	170	237	129	65	0	83
Avg.	424	402	22.5	403	263	327	22.5	300	161	75	0	104

No Budget Adjustments												
	Total Impact				Immigrant				Descendants			
	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.	0-24	25-64	65+	Avg.
Federal Net												
<HS	-151	-295	-255	-231	-96	-256	-255	-187	-55	-40	0	-43
HS	-47	-209	-185	-153	-35	-187	-185	-135	-12	-22	0	-18
SomCol	38	-107	-187	-42	20	-105	-187	-49	18	-2	0	7
BA	101	85	-205	81	63	51	-205	47	38	34	0	34
>BA	92	342	-151	259	65	283	-151	210	27	60	0	49
Avg.	-12	-41	-219	-37	-9	-47	-219	-40	-3	6	0	2
Federal Taxes												
<HS	317	142	15	207	169	95	15	121	148	47	0	86
HS	391	208	13	264	217	148	13	167	174	60	0	97
SomCol	463	296	15	365	265	211	15	230	198	85	0	135
BA	490	460	19	456	293	345	19	319	197	116	0	137
>BA	457	699	34	615	281	564	34	470	176	135	0	145
Avg.	413	357	17	364	236	269	17	247	177	88	0	117
Federal Benefits												
<HS	468	438	270	437	265	351	270	308	203	87	0	129
HS	438	417	199	417	252	335	199	302	186	82	0	115
SomCol	425	403	202	407	2,445	316	202	280	180	88	0	128
BA	390	375	224	375	230	293	224	272	160	82	0	103
>BA	365	356	185	356	216	281	185	260	149	75	0	96
Avg.	425	398	236	401	246	315	236	287	180	83	0	115

NOTE: The “total” figures equal the fiscal impact of the individual immigrant plus the fiscal impacts of that individual’s descendants. See accompanying text for a discussion of the difference among scenarios without and with public goods included. The discount rate used for the net present value calculations is 3 percent.

SOURCE: The values are panel generated using Current Population Survey data pools from 2011-2013.

steep than the gradient for taxes paid. An immigrant arriving at working age with a college degree will receive less in benefits than the high school dropout (\$281,000 compared to \$358,000), but this difference is far less than it was for taxes paid (\$532,000 versus \$181,000). Overall, since taxes are sharply increased with education, and benefits are reduced (albeit not as dramatically), one can see why the higher levels of education among recent immigrants produce a more positive net fiscal impact than previous immigrants produced.

The consolidated amounts in Tables 8-12, 8-13, and 8-14 are the sum of the corresponding federal amounts in Table 8-15 and the state/local amounts in Table 8-16. The two CBO-based scenarios are the same at the state and local levels because there is no deficit reduction plan for state and local budgets. By statute, those budgets are required to balance. These results show that almost all of the positive fiscal impacts of immigration come from the federal level. State and local impacts are mostly negative for the average new immigrant as an individual and for that individual's descendants. Comparing the difference in fiscal impacts of the individual with those of the immigrant's descendants gives some indication of what drives these patterns. The descendants' amounts are mostly negative because state and local governments must pay the upfront costs of education for young immigrants who are still dependents and for the young native-born children of new immigrants. Even though working-age immigrants pay state and local taxes, these receipts are not large enough to compensate for the cost of educating their children. In addition, the 75-year time window for our future-looking projections cuts the analysis off when some of the children and grandchildren of the hypothetical immigrant are in their highest earning, highest tax-paying ages. Although those amounts would be heavily discounted in the calculations because they are relatively far in the future, there would likely be some additional benefit from these flows into state and local budgets if the projection was extended further and captured them.

Table 8-16 also does not show as wide a spread in the present value of tax revenues by education group at the state and local level as at the federal level. State and local governments rely much more heavily on revenue sources other than income taxes than does the federal government. Sales and property taxes are less correlated with education than are income taxes. A key upshot of this is that higher levels of education among recent immigrants, which seems to be such a boon to federal budgets, cannot help as much to maintain fiscal balance at the state and local level. Another is that educating the children of immigrants, while demonstrably helpful at the federal level because of the progressivity of federal taxes, is much less of a gain for the states, where the sales and property tax contributions of more educated residents do not seem to exceed those of less educated residents as much as taxes do at the federal level.

Future Impacts: Summary

Although estimates vary across scenarios, fiscal impacts of immigrants are generally positive at the federal level and negative at the state and local levels. State and local governments bear the burden of providing education benefits, upon arrival and continuing, to young immigrants and to the children of immigrants, but their methods of taxation tend to recoup relatively fewer contributions later from the most highly educated taxpayers. Federal benefits, in contrast, are largely focused on the elderly, so the relative youthfulness of arriving immigrants means that they tend to have positive fiscal impacts on federal finances in the short term. In addition, federal taxes are more strongly progressive, drawing more contributions from the most highly educated. The investment in public education requires public funds and pays public dividends, but a key issue is that the public dividends tend to be absorbed by the federal government, while the public funds are provided by the states. The fact that states bear much of the fiscal burden of immigration may incentivize state-level policies to exclude immigrants. Equity issues between the federal government and across states should be given consideration in future iterations of immigration policy.

Forward-looking projections of the net fiscal impact of an additional immigrant and descendants generate a relatively wide range of possible results. Future developments are uncertain, and, across a range of reasonable scenarios, the fiscal impact from an additional immigrant can be positive or negative depending on which assumptions are used in the calculation. Three assumptions are particularly important in determining the results: the future of government budgets, the treatment of public goods (i.e., how costs on budget items such as national defense change are assumed to change with an additional immigrant), and the immigrant's characteristics.

The future path of fiscal policy is important for assessing the fiscal impacts of immigrants. Under "business as usual," in which federal deficits continue and debt increases rapidly relative to GDP, immigrants are not valuable to governments (i.e., they do not have a positive fiscal impact) because nobody is valuable to governments. The net fiscal impact for any U.S. resident, immigrant or native-born, is negative. When fiscal sustainability is assumed to result in future spending cuts and tax increases, immigrants are more valuable than native-born Americans (that is, their net fiscal impact is greater in a positive direction).

The treatment of spending on public goods is important for assessing the fiscal impact of immigrants. Federal defense spending is a very large part of the budget. But the addition of a single citizen through immigration or birth cannot plausibly increase defense spending, which is easily shared by all citizens, while it clearly must increase spending on transfer programs

such as Social Security. Therefore, it is reasonable to omit the per capita cost of pure public goods, such as national defense, from the incremental cost to government of a single additional citizen. However, for larger increases in population through sustained immigration, this reasoning no longer holds and the net fiscal impact of immigrants may dip negative if spending on public goods is assumed to increase with the resulting population increase.

The characteristics of a new immigrant are important for assessing the fiscal impact. During the past 20 years, there has been considerable change in many characteristics of immigrants, chief among them—for purposes of understanding fiscal impacts—being age structure and educational attainment. If a future immigrant looks like recent new immigrants, rather than like an average immigrant of the entire first generation alive today, that immigrant will have a more positive net fiscal impact because of increased levels of education and concentration at working ages, the characteristics most lucrative to governments from the perspective of tax collections.

Today's immigrants have more education, making them more positive contributors to government finances than immigrants in the past. If today's immigrants had the same lower educational distribution as immigrants two decades ago, their positive fiscal impact would have been 30-70 percent lower. Whether these trends will continue or not remains uncertain, but the historical record suggests that the total net fiscal impact of immigrants across all levels of government may have become more positive over time.

An immigrant and a native-born person with similar characteristics will likely have about the same fiscal impact. Persons with higher levels of education contribute more positively to government finances regardless of their immigrant status. Furthermore, within age and education categories, immigrants generally have a more salutary effect on budgets than a native-born person because they are disqualified from some benefit programs and because their children, on average, tend to achieve higher levels of education, earnings, and tax paying. Of course, government policy has much more control over levels of immigration than over rates of native population growth, and thus the policy implications of this point are minimal.

8.4 ANNEX: TECHNICAL DOCUMENTATION FOR THE FISCAL ESTIMATES

Chapter 8 contains estimates of costs and benefits of U.S. residents by generation, as well as discounted flows, of taxes paid and benefits received, that are expected to arise from one new immigrant arriving in the United States in the future, including flows attributable to that immigrant's descendants. This annex explains the calculation steps involved in the creation of this dataset of flows and in all of the NPV calculations that appear in Chapter 8. After an overview of the calculation steps, the second section documents in detail how the age profiles of taxes and benefits were generated. The third section explains the methodology for estimating educational transmission from one generation to the next and projecting educational attainment of future immigrants and descendants. The fourth subsection covers the projection of future taxes and benefits, and the final subsection documents how key demographic characteristics (survivorship, emigration, and number of descendants) were projected for future immigrants and their descendants.

Overview of Calculation Steps

The same input data that were used in the historical static calculations in Section 8.2 were used in the forward projections in Section 8.3, but the future-looking projected flows are only used in the 75-year horizon calculations. The steps in the forward-looking calculation are described briefly in this section in a numbered list. The subsequent sections of the annex give complete details for each step.

1. Estimate Age Profiles of Tax and Benefit Flows by Immigrant Status and Education

The profiles are smoothed, per capita age schedules of tax and benefit flows, estimated from rolling 3-year CPS samples and augmented with other data sources where necessary. They are adjusted by an overall factor (i.e., one multiplicative factor is applied to all age groups) so that the aggregates match totals from the NIPA for the central year of the 3-year period. For example, the age profiles for 2012 come from pooled CPS samples for 2011-2013 and are adjusted to 2012 NIPA total. The “jumping-off” year for the future-looking 75-year flow projections is 2012.

Age profiles are estimated for five immigrant groups and five educational attainment groups. The immigrant groups are foreign born arriving within the last 0-4 years, foreign-born arriving within the last 5-9 years, foreign-born arriving more than 10 years ago, native-born children of foreign-born

parents, and native-born children of native-born parents. The five education groups are less than high school completion (<HS), completed high school (HS), some college (SomCol), graduated from college with a degree (BA), and education beyond the first college degree (>BA). When the CPS has individual-level indicators of a particular flow, those are used. Where a household-level flow is available, assumptions are made about the allocation of the household amount to individuals within the household.

Some flows are not attributable to individuals but instead can be assigned to everyone in the population on a per capita basis. These include public goods, such as defense and subsidies, interest payments on debt, general costs of public administration, and other costs shared across society such as the costs of police, fire, and building and maintaining public infrastructure. For some analyses, it is appropriate to exclude some of these costs, for others it is more reasonable to include them. The tables in the chapter specify whether and which public goods were included in per capita costs.

For the historical static calculations in Section 8.2, the same rolling 3-year pooled CPS samples are used, but at the individual level rather than collapsed into per capita age profiles. However, the microdata is still adjusted to agree with NIPA totals for the central year at the aggregate level. The data sources and assumptions for each flow are listed in the next subsection of this annex, followed by details on the aggregate NIPA amounts to which the age profiles were adjusted.

2. Estimate Future Educational Attainment of Young Immigrants and of All Immigrant Descendants

Because an individual's tax payments and benefit receipts differ so much by the individual's educational attainment, to predict future flows for an immigrant one must first predict the educational level that individual and his descendants will attain. An immigrant who arrives after age 25 is likely to maintain the education level observed on arrival, so we assume no change in educational attainment after age 25. If the immigrant arrives before age 25, we instead predict a future education level by estimating regression functions that predict offspring education based on parental education.

The regression functions were estimated using Decennial Census samples 15 years apart. The earlier sample was used to observe the education of parents born in particular regions who had children ages 10-16 living in their households. The later sample provided observations of the education of persons ages 25-31 whose parents were born in that region. These distributions were compared to derive regression functions to predict a child's educational attainment based on parents' education and birth region. Separate functions were derived for native-born children and for foreign-born

children. In predicting ultimate education levels, random error terms were added to maintain realistic educational distributions at each generation. More details on this process are included below.

3. Project Future Taxes and Benefits

The NPV calculations start with the jumping-off year of 2012 and continue forward 75 years to 2087. To estimate federal flows, three different scenarios are used, as follows:

1. The CBO's Long-Term Budget Outlook's extended baseline scenario, which projects what would happen in the future under all currently legislated tax and spending provisions but no new ones (Congressional Budget Office, 2014a).
2. A CBO version of the extended baseline scenario but with a long-term plan to reduce federal deficits.
3. A simple No Budget Adjustments scenario in which no budget-mitigation mechanisms are assumed but the age profiles themselves simply shift up every year by an assumed rate of productivity growth (1% was used).

State and local budgets were handled differently because they cannot run large deficits like the federal government can. For the CBO-based scenarios, we assumed that all state and local flows grow at the same rate as national GDP in CBO's baseline budget projection (which does not include economic feedbacks from debt to economic performance, although CBO does have alternative projections that do incorporate equilibrium effects). For the No Budget Adjustments scenario, state and local flows were handled in the same way as federal flows, with age profiles of taxes paid and benefits received shifting upward by an assumed 1 percent per year. More details on these projections and what they do to future deficits appear in the detailed discussion below.

4. Project Survivorship, Emigration, and Number of Descendants

To project fiscal impacts of an immigrant arrival into the future, one needs to know how likely the immigrant is to survive in each future year and to not emigrate from the United States (either back to the immigrant's country of origin or to another country). To project the fiscal impacts of the immigrant's descendants, one needs to know how many children will be born and what their survivorship and risk of emigration will be. For the projections in Chapter 8, all of these demographic factors are the same as those used for the demographic projections elsewhere in the report.

However, there is one additional assumption needed to cover the case of young children whose immigrant parents choose to emigrate. We assume here that children of immigrants ages 0 to 19 years whose parents emigrate will also emigrate, even if they are native born. See the section below on projection of demographic characteristics for further details.

5. Final Calculation: Sum Up Discounted Projected Future Flows Based on Entry Characteristics and Apply a Discount Rate

The final “thought experiment” of estimating the fiscal impact of the arrival of one additional immigrant combines the results from steps 3 and 4. Defining survivorship broadly to include the risk of emigration along with the risk of death, this process then involves weighting the projected per capita flows by the survivorship probability of a hypothetical immigrant and that immigrant’s hypothetical descendants at each year from 2012 to 2087, given the immigrant’s level of education and age at entry.

To talk through one example, imagine an immigrant arriving at age 32 in 2012 with less than high school education. The age profiles specify that this immigrant will have a particular level of taxes paid and benefits received in 2012, and the difference between them is that person’s net fiscal impact in 2012. For 2013, the calculation uses the projected taxes paid and benefits received of a now 33-year-old with less than high school education, weighted by the probability of having survived to age 33 and not emigrated, discounted by 3 percent. The process continues for a 34-year-old in 2014, this time discounted by 3 percent each year for 2 years. The net fiscal impact for the 35-year-old immigrant in 2015 is discounted for each of 3 years, and so on. The discounted annual net fiscal impacts for all 75 years are then added together to give the NPV of the immigrant’s arrival attributable just to that individual (excluding flows from the immigrant’s descendants).

The discounted NPV for each of the immigrant’s descendants is calculated similarly. Based on fertility rates, the immigrant has an expected number of births in 2013, weighted by the probability of a newborn surviving (and not leaving with an emigrating parent). This number of children is multiplied by the taxes paid less benefits received that are expected to accrue to a newborn child in 2013, and so for each year as the expected children age and progress through their years of public schooling. Eventually in one or another future year, each surviving child of the immigrant is old enough to have a positive expected number of births, and the discounted NPV calculation process will continue forward for the immigrant’s grandchildren as well. All expected (based on fertility, survivorship and emigration rates, etc.) offspring over the 75-year period are included in deriving the summed-up fiscal impact for the immigrant’s descendants.

For comparative purposes, a similar analysis can be done for native-born persons of native-born parents. Even though natives only ever “arrive” at birth (age 0), the calculation for a native-born individual that is included in Chapter 8 is for the discounted flows starting from age 25. But that calculation is used just for comparison with an immigrant arriving at age 25 (to equalize the comparison, given that the immigrant does not receive public schooling benefits in the United States).

The immigrant calculations described here give the 75-year present values for a particular age and education at arrival. However, for purposes of the issues discussed in Chapter 8, we are usually interested in the discounted present value for a set of average characteristics for a particular group. In the chapter, averages for recent immigrants and all immigrants are shown.

Age Profiles of Taxes and Benefits

CPS Data and Definition of Immigrant Generations

Most of the profiles used in *The New Americans* (National Research Council, 1997) were based on CPS data, pooling March samples for 1994 and 1995. Federal tax and benefit flows were adjusted to national aggregates as measured in NIPA for 1994. State and local benefits were adjusted to agree with 1994 fiscal year totals, while state and local taxes were adjusted to follow a balanced budget rule.

The age profiles used in this report also use mostly CPS data, pooling samples over 3 years to get the appropriate age shape for the central year, then adjusting to national aggregates for the central year. The profiles shown here are for 2012: The age profiles are calculated from CPS samples for 2011, 2012, and 2013 and are adjusted to be consistent with national aggregates for calendar year 2012.

For each age profile, the source in the CPS for that profile is noted below, as is the source for the national aggregate that the age profile is adjusted proportionally to match. Separate profiles were generated for each of five immigration groups with each of five education levels. Immigrants are divided by generation and, for the first generation, by the time since their arrival in the United States:

- Foreign-born (first generation)³⁸
–arrived 0-4 years ago

³⁸This group does *not* include those born abroad of American-citizen parents, as those persons would be considered citizens at birth and thus not affected by immigration policy. Such persons are considered to be third-plus generation for this report.

- arrived 5-9 years ago
- arrived 10 or more years ago
- Native-born with two foreign-born parents (second generation)
- Native-born with two native-born parents (third generation)³⁹

In its computations, *The New Americans* (National Research Council, 1997) split native-born person with one foreign-born parent and one native-born parent 50/50 between the second and third-plus generations. This is appropriate for the forward-looking present value calculation because it credits an immigrant and nonimmigrant who have a child together as each having half of that child. Thus, higher or lower expected fertility for immigrant groups as compared to native groups will be accounted for in the calculation of net fiscal impacts of descendants. However, for the historical static calculations in Section 8.2, these children can be considered as either second or third generation, depending on the calculation scenario.

The age profiles were further separated into the five education groups, with immigrant descendants and immigrants themselves moving from one education category to another based on estimated generational transitions. The five education groups, abbreviated as <HS, HS, SomColl, BA, and >BA, are defined above in the “Overview of Calculation Steps.”

Institutionalized Persons (mainly nursing home residents)

Because the CPS does not include persons in institutions, each age profile must be adjusted to reflect the total U.S. resident population instead of just the household-resident population. This issue is most acute at oldest ages, when there are high rates of nursing home residence. For some age profiles, the adjustment for the “missing” residents in the CPS is made by assuming the value for the net fiscal flows for these persons is zero, or is the same as those not in nursing homes. For other age profiles, a different assumption is made based on external data sources. Data on the percentage of persons in institutions, by age and immigration status, are from the Integrated Public Use Microdata Series (IPUMS) for 1980, 1990, and 2000 and the American Community Survey (ACS) for the period 2006-2012, interpolated for years with no sample.

The IPUMS and ACS data for most years do not allow separation of nursing home residence by other types of institutionalization. All persons ages 65 and older in institutions are assumed to be in nursing homes. Also, IPUMS and ACS only allow separating institutionalization percentages by first generation versus second or higher generations. For this report, the

³⁹Throughout this report, the term “third-plus generation” is used as shorthand to refer to all U.S. residents who are technically third generation or more from an immigrant ancestor.

proportion institutionalized for second and higher generations is applied to both the second and third-plus generation estimates.

While rates of institutionalization are generally lower for immigrants compared to natives, and much lower for recent immigrants, they are very relevant for estimating the correct flows of some transfer programs that benefit the oldest age groups, such as Medicare and Medicaid, and for estimating the difference between average benefits for immigrants and the native-born.

Allocations to Individuals When CPS Data Are Household Level

When CPS source data are used at individual level, the data are used “as is,” unless otherwise noted. When the source data are at the household level, the allocation of the household amount to individuals within the household is specified for each variable.

Top Codes

CPS income variables have top codes to prevent identification of individuals. For most years and most survey items, a group average for those to whom the top code applies is given in the CPS data. Where CPS data do not have a top-coded value (mostly for years prior to 2011), twice the value of the highest non-topcoded value is substituted for records in that category.

Levels of Government

Flows are divided into federal government flows and state/local government flows. For programs where federal and state/local resources are combined, the program is treated as federal if the federal government provides a large proportion of the resources for the program, treated as state/local if state/local governments provide most of the funding, and divided into separate flows with the same age shape but different aggregate controls where there are substantial funding components from both levels of government.

Variable List

The following list defines the variables used in the datasets derived from the CPS data to generate the age profiles for taxes paid and benefits received. This information is provided for readers interested in working with the panel’s datasets or with data extracts similar to those used by the panel for the forward-looking projections in Chapter 8.

Group characteristics:

year	Year of age profile (central year of 3-year pooled CPS samples)
age	Age groups, single year to 80+
immig	Immigration groups (see following section for groups)
edu	Education groups (see following section for groups)
totpop	Total resident population represented by year/age/immig/edu group

Federal taxes:

inctx_f	Income tax, federal
corptx_f	Corporate tax, federal
extx_f	Excise tax, federal
fica_f	FICA contributions (employer and employee combined), federal
smicon_f	Contributions for Supplementary Medical Insurance (Medicare Part B), federal
unmpcon_f	Unemployment insurance contributions, federal
othtx_f	Other taxes, federal

State/local taxes:

inctx_s	Income tax, state/local
prptxown_s	Property tax attributed to owners of property, state/local
prptxrent_s	Property tax estimated as “passed down” to renters, state/local
salestax_s	Sales tax, state/local
othtx_s	Other taxes, state/local

Federal benefits:

oasdi_f	Social Security payments (Old-Age and Disability Insurance), federal
hi_f	Medicare Part A benefits (hospital insurance), federal
smi_f	Medicare Part B benefits (also called supplementary medical insurance), federal
mcaidnhom_f	Medicaid payments to nursing homes, federal portion
mcaidnoninst_f	Medicaid payments to other than nursing homes, federal portion
incunemp_f	Unemployment benefit payments, federal
retrr_f	Railroad retirement, federal

incssi_f	Supplemental security income (to low-income old, blind, disabled), federal
eitcred_f	EITC payments, federal
fdstmp_f	Food stamp benefits (now called SNAP), federal
schlunch_f	School lunch benefits, federal
incwelfr_f	Welfare program benefits (AFDC, TANF, GA, welfare reform benefits), federal
jail_f	Incarceration costs, federal
vetben_f	Veterans' benefits (military retirement, disability, readjustment), federal
refugee_f	Refugee settlement programs, federal
scholar_f	Scholarships and student loan subsidies, federal
rentsub_f	Rent subsidies, federal
pubhous_f	Public housing benefits, federal
heatsup_f	Energy payment subsidies for low-income people, federal
ret_f	Retirement benefits, federal
cong_f	Congestible goods (transportation, public admin, etc.), federal

State/local benefits:

mcaidnhom_s	Medicaid payments to nursing homes, state portion
mcaidnoninst_s	Medicaid payments to other than nursing homes, state portion
schip_s	SCHIP benefits, state
incssi_s	Supplemental security income (to low-income old, blind, disabled), state
jail_s	Incarceration costs, state/local
wic_s	WIC benefits, state
lowedu_s	Primary and secondary education, state/local
college_s	Public college and university support, state/local
ret_s	Retirement benefits, state/local
incwkcom_s	Workers' compensation benefits, state/local
bilingual_s	Bilingual education costs, state/local
cong_s	Congestible goods (police, public admin, etc.), state/local

For comparative purposes:

wgsal	Wages and salary income
gia_x	Grants-in-aid from federal to state/local governments (on a per capita basis)

“Pure” public goods (all distributed on a per capita basis to the entire population, so no further documentation for these flows appears in this annex):

int_fx	Interest payments on the federal debt
def_fx	Defense spending, federal
sub_fx	Subsidies, federal
rowgr_fx	Grants to rest-of-world, federal
int_sx	Interest payments by state and local governments
sub_sx	Subsidies, state/local

Summary groups of age profiles:

purepub	All variables in “pure” public goods group above
fedtax	All variables in federal tax group above
sltax	All variables in state/local tax group above
fedold	Federal benefits based on old age (oasdi_f, hi_f, smi_f, retrr_f, ret_f)
fedpoor	Federal benefits based on low income (mcaidnhom_f, mcaidnoninst_f, incunemp_f, incssi_f, eitcred_f, fdstmp_f, schlunch_f, incwelfr_f, rentsab_f, pubhous_f, heatsup_f)
fededu	Federal education benefits (scholar_f)
fedother	Other federal benefits (jail_f, vetben_f, refugee_f, cong_f)
fedben	Total federal benefits (fedold, fedpoor, fededu, fedother)
slold	State/local benefits based on old age (ret_s)
slpoor	State/local benefits based on low income (mcaidnhom_s, mcaidnoninst_s, incssi_s, schip_s, wic_s)
sledu	State/local education benefits (lowedu_s, college_s, bilingual_s)
slother	Other state/local benefits (jail_s, incwkcom_s, cong_s)
slben	Total state/local benefits (slold, slpoor, sledu, slother)
fednet	Net federal impact (taxes-benefits)
slnet	Net state/local impact (taxes-benefits)
tottax	Total taxes (fed and s/l combined)
totben	Total benefits (fed and s/l combined)
totnet	Net total impact (fed and s/l combined)

Codes for immigration groups (immig variable):

0	All groups combined
10	Foreign-born (FB, all arrival groups combined)
11	FB, arrived 0-4 years ago

12	FB, arrived 5-9 years ago
13	FB, arrived 10+ years ago
20	Native-born (NB) of 2 FB parents (2nd generation)
25	NB with 1 FB parent, 1 NB parent (2.5 generation)
30	NB with 2 NB parents plus FB but citizen at birth (3rd generation)

Codes for education groups (edu variable):

0	Total population (all education groups combined)
1	Less than HS
2	HS graduate or GED
3	Some college
4	Bachelor’s degree
5	Any post bachelors

Details on Each Flow

The following documentation describes source data, aggregates to which totals are normalized, and assumptions underlying tax revenue and various benefit and public cost flow calculations used in the fiscal impact estimates. This section does not include description of flows assigned on a per capita basis.

Federal Income Taxes (variable name: inctx_f)

- Source data: CPS individual-level variable *fedtax*, which is imputed by the Census Bureau’s tax model. For married couples filing jointly, the tax model assigns the whole amount to one of the spouses; but this has been recoded to give half of the amount to one spouse, half to the other.
- Aggregate: NIPA (National Income and Product Accounts) Table 3.2, Federal Government Current Receipts and Expenditures, personal current taxes.
- NH assumpt: Non-household (i.e., institutionalized) persons assumed to pay no income tax.
- Topcoding: *fedtax* = 99997 for years before 2011, used 2 x highest non-topcoded value for the year.

Federal Corporate Taxes (variable name: corptx_f)

- Source data: 80% of CPS individual-level variables for dividend and interest income (*includivid+incint*) plus 20% of CPS individual-level variable for wages (*incwage*).

- Aggregate: NIPA Table 3.2. Federal Government Current Receipts and Expenditures, taxes on corporate income. (There is a much smaller amount in the state/local expenditures table titled “taxes on corporate income,” but that is considered to be similar enough to a sales tax that it is included with state sales taxes.)
- NH assumpt: Non-household persons are assumed to have 20% of assets of persons in households. Data underlying this assumption originate from U.S. National Transfer Accounts publications by Lee et al. (2011).
- Topcoding: *incdivid* = 99997 and *incint* = 99997 for years prior to 1999, used 2 x highest non-topcoded value for the year (*incwage* has imputed values for topcodes).

Federal Excise Taxes (variable name: *extx_f*)

- Source data: Excise taxes are predicted based on a regression equation estimated from data from the Consumer Expenditure Survey where household adjusted gross income (AGI) and household structure predict the amount the household spends on consumption of alcohol, tobacco, and gasoline. (These three items make up the bulk of excise taxes in most years.) This regression equation is then applied to the household sum of values in the individual-level CPS variable *adjginc*. Household amount is allocated to individuals in the household based on individual shares of household AGI, but dividing total spousal couple AGI evenly between both spouses. AGI amount reduced by \$1,250 as in *The New Americans* (National Research Council, 1997) (\$1,250 real 1994 dollars are adjusted to real value for each subsequent year) for first generation, as this amount is assumed to be remitted to the country of origin.
- Aggregate: NIPA Table 3.2. Federal Government Current Receipts and Expenditures, Excise taxes.
- NH assumpt: Non-household persons are assumed to have \$0 for these taxes.
- Topcoding: *adjginc* = 99997 for years prior to 1999, used 2 x highest non-topcoded value for the year.

FICA Taxes (variable name: *fica_f*)

- Source data: CPS individual-level variable *fica*, which is imputed by Census Bureau’s tax model; same change made for married couples filing jointly as for federal income taxes (assigned 50/50 to spouses).

Aggregate: NIPA Table 3.6. Contributions for Government Social Insurance, Employer and Employee contributions for Old-Age, Survivors, and Disability Insurance; and Hospital Insurance.
NH assumpt: Non-household persons are assumed to pay no FICA tax.
Topcoding: No topcoding.

Federal SMI Contributions (variable name: smicon_f)

Source data: Allocated based on enrollment in Medicare (CPS variable himcare = 2).
Aggregate: NIPA Table 3.6. Contributions for Government Social Insurance, Supplementary Medical Insurance.
NH assumpt: Non-household persons are assumed to have \$0 for these taxes.
Topcoding: Not applicable.

Federal Unemployment Contributions (variable name: unmpcon_f)

Source data: Allocated based on any contributions to FICA taxes in Medicare (CPS variable fica > 0) to reflect flat amount contributed by employers for each employee.
Aggregate: NIPA Table 3.6. Contributions for Government Social Insurance, Unemployment Insurance.
NH assumpt: Non-household persons are assumed to have \$0 in federal unemployment contributions.
Topcoding: Not applicable.

Other Federal Taxes (variable name: othtx_f)

Source data: Following *The New Americans* (National Research Council, 1997), federal “other” has same age shape as federal income tax.
Aggregate: Remaining revenue items from federal taxes and social contribution tables.
NH assumpt: Non-household persons are assumed to have \$0 for these taxes.
Topcoding: Not applicable.

State Income Taxes (variable name: inctx_s)

Source data: CPS individual-level variable state tax, which is imputed by Census Bureau’s tax model. For married couples filing jointly, amount is divided 50/50 between spouses.
Aggregate: NIPA Table 3.3, State and Local Government Current Receipts and Expenditures, personal current taxes.

NH assumpt: Non-household persons are assumed to have \$0 for these taxes.

Topcoding: $\text{statetax} = 99997$ for years prior to 2011; used 2 x highest non-topcoded value for the year.

Property Tax (owners/renters) (variable names: `prptxown_s`, `prptxrent_s`)

Source data: For owners, CPS household-level variable `proptax`, for those households occupied by the owners (`ownership = 10`). For renters, it is based on percentage who rent. For both, amount is allocated to adults (i.e., nondependents) in the household but weighted by family size. (For example, if a household has two families in it, an adult couple and a couple with two children, one-third of the amount would be allocated to the couple, two-thirds to the nuclear family, but then each family's amount would be divided evenly among the two adults in that family.)

Aggregate: State/local property taxes (NIPA Table 3.3, line 8), divided into that paid on owned housing versus rental housing based on shares of consumption of owned housing versus rental (Table 2.4.5. Personal Consumption Expenditures by Type of Product). Of the portion attributed to rental housing, 70% allocated to renters, 30% to property owners.

NH assumpt: For renters, non-household population is assumed to pay \$0. For owners, non-household population is assumed to pay 20% of the amount paid by the household population, based on data from the National Nursing Home Survey showing about 20% of non-household residents pay for the nursing home using their own insurance or own income/assets. The rest are either using means-tested government programs that require the resident to spend down assets or they are using help from relatives or charities, implying that they have no assets.

Topcoding: Not applicable.

Sales Taxes (variable name: `salestax_s`)

Source data: Similar to excise taxes. Excise taxes are predicted based on a regression equation estimated from data from the Consumer Expenditure Survey where household AGI and household structure predict total taxable consumption. This regression equation is then applied to the household sum of values in the individual-level CPS variable `adjginc`. Household amount is allocated to individuals in the household based on individual

shares of household AGI, but dividing total spousal couple AGI evenly between both spouses. AGI amount is reduced by \$1,250 (real 1994 dollars are adjusted to real value for each subsequent year) for the first generation, as this amount is assumed to be remitted to the immigrant's country of origin.

Aggregate: NIPA Table 3.3. State and Local Government Current Receipts and Expenditures, sales taxes.

NH assumpt: Non-household persons are assumed to pay \$0 sales tax.

Topcoding: adjginc = 99997 topcode through 2010 (original value was \$99999); adjginc = 9999997 topcode beginning in 2011 (original value was \$9999999); before 2011, used 2 x highest non-topcoded value for the year.

Other State/Local Taxes (variable name: othtx_s)

Source data: Following *The New Americans* (National Research Council, 1997), state/local "other" has same age shape as state/local income tax.

Aggregate: Remaining revenue items from state/local taxes and social contribution tables.

NH assumpt: Non-household persons are assumed to have \$0 for these taxes.

Topcoding: Not applicable.

Federal OASDI (variable name: oasdi_f)

Source data: CPS individual-level variable incss (includes payments to retirees, survivors, and the disabled).

Aggregate: NIPA Table 3.12 Government Social Benefits.

NH assumpt: Same as for non-nursing home (i.e., household) population.

Topcoding: Not applicable.

Hospital Insurance (Medicare Part A) (variable name: hi_f)

Source data: CPS individual-level variable on Medicare enrollment (himcare = 2), but weighted by total per capita personal health care expenditures by age from the 2011 National Health Accounts.

Aggregate: Total Medicare costs come from Government Social Benefits (NIPA Table 3.12), multiplied by the percentage going to Part A from Medicare Trustees Report.

NH assumpt: These are mostly hospital costs associated with nursing home residents when they have serious complications, and such costs are very expensive. Non-household persons are assumed

to be consuming at twice the level of household residents. Data underlying this assumption originate from U.S. National Transfer Accounts publications by Lee et al. (2011).

Topcoding: Not applicable.

Supplemental Medical Insurance (Medicare Parts B & D)
(variable name: *smi_f*)

Source data: (Same as for *hi_f*) CPS individual-level variable on Medicare enrollment (*himcare* = 2), but weighted by total per capita personal health care expenditures by age from the 2011 National Health Accounts.

Aggregate: Total Medicare costs come from Government Social Benefits (NIPA Table 3.12), multiplied by the percentage going to Parts B & D from Medicare Trustees Report.

NH assumpt: Same as for the household population.

Topcoding: Not applicable.

Medicaid Payments to Nursing Homes
(variable names: *mcaidnhom_f*, *mcaidnhom_s*)

Source data: Federal and state/local levels are coded separately. Because this flow is for persons not in the household population, CPS does not have indicators for this. Instead, we assign these costs based on the percentage of population in nursing homes, ages 65 and older, as measured in IPUMS/ACS for that year. These sources do not have generational detail, so the profile only differentiates between the first generation and native-born generations; (the second and third-plus generations are assigned the weight for native-born [second and higher] generations.

Aggregate: Government Social Benefits (NIPA Table 3.12, Medicaid), multiplied by the proportion that Medicaid paid to nursing homes as measured in National Health Expenditures data. Also separated into federal and state/local portions from the National Health Expenditure data.

NH assumpt: Not applicable.

Topcoding: Not applicable.

Medicaid Payments to Other Than Nursing Homes
(variable names: *mcaidnoninst_f*, *mcaidnoninst_s*)

- Source data: Federal and state/local levels are coded separately. Assigned based on Medicaid enrollment (CPS variable *himcaid* = 2) but weighted by total per capita personal health care expenditures by age from the 2011 National Health Accounts.
- Aggregate: Government Social Benefits (NIPA Table 3.12, Medicaid), multiplied by proportion Medicaid paid to non-nursing homes from National Health Expenditures data and also separated into federal and state/local portions from National Health Expenditure data.
- NH assumpt: These are mostly hospital costs associated with nursing home residents when they have serious complications, and such costs are very expensive. Non-household persons are assumed to be consuming at twice the level of household residents. Data underlying this assumption originate from U.S. National Transfer Accounts publications by Lee et al. (2011).
- Topcoding: Not applicable.

Unemployment Insurance Income (variable name: *incunemp_f*)

- Source data: CPS individual-level variable *incunemp*. This variable does contain some payments from private sources, but as long as those are not huge or radically different by age or immigrant generation, it is corrected for in the aggregate adjustment.
- Aggregate: Government Social Benefits (NIPA Table 3.12, unemployment insurance).
- NH assumpt: Non-household persons are assumed to have \$0 for this benefit.
- Topcoding: *incunemp* = 99997 for years 1995, 1996, 1998, 2000-2007, 2009-2013; replace with 2 x top value for the non-topcoded observations.

Railroad Retirement (variable name: *retrrr_f*)

- Source data: CPS individual-level variable *increti1* (amount of income from first source) and *screti1* = 5 (receives U.S. Railroad retirement pension); similarly *increti2* and *screti2* = 5 for the second source of income. If there is an amount attributed to someone with a spouse in the household, that amount is divided evenly between the two spouses.
- Aggregate: Government Social Benefits (NIPA Table 3.12, U.S. railroad retirement).
- NH assumpt: Same as household population.

Topcoding: *increti1* and *increti2* = 99997 for years up to and including 1998 and from 2011 forward. Substituted 2 x highest non-topcoded value.

Supplemental Security Income (variable names: *incssi_f*, *incssi_s*)

Source data: Federal and state/local levels are coded separately. CPS individual-level variable *incssi*.

Aggregate: Government Social Benefits (NIPA Table 3.12), SSI federal and state/local amounts are listed separately.

NH assumpt: Same as household population.

Topcoding: Not applicable.

EITC (variable name: *eitcred_f*)

Source data: CPS individual-level variable *eitcred* is imputed by Census Bureau's tax model. Allocation is made by summing all *eitcred* in a family unit and dividing evenly among people in the family.

Aggregate: Government Social Benefits (NIPA Table 3.12, line 25, Refundable Tax Credits).

NH assumpt: Non-household persons are assumed to have \$0 for this benefit.

Topcoding: Not applicable.

Food Stamps/SNAP (variable name: *fdstmp_f*)

Source data: CPS household-level variable *stampval* (value of food stamps received), divided equally among all household members.

Aggregate: Government Social Benefits (NIPA Table 3.12, federal SNAP benefits).

NH assumpt: Non-household persons are assumed to have \$0 for this benefit.

Topcoding: Not applicable.

Federal School Lunch Program (variable name: *schlunch_f*)

Source data: CPS household-level variable *lunchsub*, which indicates households where some or all of the children received free or reduced price school lunches, and CPS household-level variable *frelunch*, which indicates how many children in the household received free or reduced price lunches. An equal value is assigned to all children households with *lunchsub* = 1 and is allocated to all children ages 5-18, starting with the youngest, until reaching the total number in the household given in *frelunch*. (There is no individual-level indicator of which children received the free lunches.)

- Aggregate: Federal budget historical tables (Table 11.3—Outlays for Payments for Individuals by Category and Major Program, child nutrition and special milk programs).
- NH assumpt: Non-household persons are assumed to have \$0 for this benefit.
- Topcoding: Not applicable.

Welfare (variable name: *incwelfr_f*)

- Source data: This includes AFDC, Temporary Assistance for Needy Families, welfare reform benefits, and general assistance. CPS individual-level variable *incwelfr*. Allocation is made by summing all *incwelfr* in a family unit and dividing evenly among people in the family.
- Aggregate: Government Social Benefits (NIPA Table 3.12, family assistance and general assistance).
- NH assumpt: Non-household persons are assumed to have \$0 for this benefit.
- Topcoding: Not applicable.

Incarceration Costs (variable names: *jail_f*, *jail_s*)

- Source data: Percentage institutionalized under age 65 from IPUMS/ACS. We were only able to distinguish difference between the first and native-born (second and higher) generations. Federal and state/local levels are coded separately.
- Aggregate: NIPA Table 3.16. Government Current Expenditures by Function, prison costs, separated out by federal versus state/local levels.
- NH assumpt: Not applicable.
- Topcoding: Not applicable.

Military Retirement and Other Veteran's Benefits (variable name: *vetben_f*)

- Source data: CPS individual-level variables *incvet*, plus *increti1* (amount of income from first source) if *screti1* = 3 (receives military pension), and similarly *increti2* and *screti2* for the second source of income. Amounts to veteran with spouse in the household is divided equally between spouses.
- Aggregate: Government Social Benefits (NIPA Table 3.12, line 17 Veterans' benefits).
- NH assumpt: Same as for non-nursing home population.
- Topcoding: Not applicable.

Refugee Support (variable name: refugee_f)

Source data: Assigned equally to all 1st generation immigrants.

Aggregate: Federal Budget Historical Table 11.3—Outlays for Payments for Individuals by Category and Major Program: 1940–2020, “refugee assistance.”

NH assumpt: \$0.

Topcoding: Not applicable.

Student Aid (cash scholarships) (variable name: scholar_f)

Source data: CPS individual-level variable *incedu* if CPS variable *srcedu* indicates that source of the funding is from government, for ages 18–24.

Aggregate: Government Social Benefits (NIPA Table 3.12, for education).

NH assumpt: \$0.

Topcoding: For years 1997 and 2011–2013, topcoded 99997. Substituted 2 x highest non-topcoded value.

Rent Subsidies (variable name: rentsub_f)

Source data: CPS household-level variable *rentsub* indicates if the household received a rent subsidy. This is attributed equally to individuals in the household (so individuals in smaller households with subsidy have greater attribution).

Aggregate: Historical Federal budget tables, Table 11.3—Outlays for Payments for Individuals by Category and Major Program: 1940–2019 gives amount spent on housing, Table 12.3—Total Outlays for Grants to State and Local Governments by Function, Agency, and Program: 1940–2015, gives part used for rent subsidies on private property as opposed to government-owned public housing).

NH assumpt: \$0.

Topcoding: Not applicable.

Public Housing (variable name: pubhous_f)

Source data: CPS household-level variable indicating if household is part of a government housing project, allocated equally to all individuals in public housing households.

Aggregate: Historical Federal budget tables, Table 11.3—Outlays for Payments for Individuals by Category and Major Program: 1940–2019 gives amount spent on housing, Table 12.3—

Total Outlays for Grants to State and Local Governments by Function, Agency, and Program: 1940–2015, gives part used for public housing as opposed to rent subsidies).

NH assumpt: \$0.

Topcoding: Not applicable.

Energy Assistance (varname: heatsup_f)

Source data: CPS household-level variables indicating if household received energy assistance (*heatsub*) and if so how much it was worth (*heatval*). Value divided equally among all household members.

Aggregate: Government Social Benefits (NIPA Table 3.12, energy assistance).

NH assumpt: \$0.

Topcoding: Not applicable.

**Government Retirement Benefits (federal and s/l separately)
(variable name: ret_f/ret_s)**

Source data: For federal, CPS individual-level variable *increti1* (amount of income from first source) and *screti1* = 2 (receives federal government pension), and similarly *increti2* and *screti2* for the second source of income. For state/local, CPS individual-level variable *increti1* (amount of income from first source) and *screti1* = 4 (receives state/local government pension), and similarly *increti2* and *screti2* for the second source of income. For both age profiles, if the amount was to a person with a spouse in the household, the amount is allocated to both spouses equally.

Aggregate: For Federal, Historical Federal budget tables, Table 11.3—Outlays for Payments for Individuals by Category and Major Program: 1940–2019. State/local: NIPA Table 7.23. Transactions of State and Local Government Defined Benefit Pension Plans.

NH assumpt: For both, same as for household population.

Topcoding: *increti1* and *increti2* = 99997 for < = 1998 and > = 2011. Substituted 2 x highest value.

**Congestible Goods—Federal and State/Local
(variable name: cong_f / cong_s)**

Source data: None. Same by all ages by assumption.

Aggregate: Residual, after all accounted for flows and “pure” public goods are subtracted from total expenditures (NIPA table 3.2 for Federal, 3.3 for State/Local).

NH assumpt: Same as for household population.

Topcoding: Not applicable.

State Child Health Insurance Program (SCHIP) (variable name: schip)

Source data: CPS individual-level variable indicating if person ages 0-18 was enrolled in health insurance through SCHIP. No cost information so age shape is just based on enrollment. CPS enrollment rates are known to be less than estimates from other sources, but as long as there is no correlation between enrollment discrepancy and age or immigration status then the aggregate adjustment will take care of the error.

Aggregate: National Health Accounts, total spent by SCHIP program (includes pure federal amount and amount spent by states, both of their own funds and from grants-in-aid from federal to state governments).

NH assumpt: \$0.

Topcoding: Not applicable.

WIC (variable name: schip)

Source data: CPS individual-level variable *gotwic* indicates if a woman was receiving WIC benefits. Allocated equally to all of those women and any of their children in the household ages 0-4.

Aggregate: NIPA Table 3.12, Government Social Benefits, line for State/local “other” which is WIC, but also includes some small amounts for foster care and adoption assistance that were not able to be separated out.

NH assumpt: \$0.

Topcoding: Not applicable.

Primary and Secondary Education (variable name: lowedu_s)

Source data: • This age profile is complex and combines 4 pieces of data: (1) percentage enrolled, (2) state-by-state relative per pupil spending, (3) percentage of schoolchildren with limited English proficiency (LEP), and (4) relative costs of educating a student with LEP vs. not.

• Enrollment is assumed to be 100% for ages 5-14. For high school, enrollment based on CPS variable *schlcoll* with half weight given to those half-time enrolled. (This variable doesn’t distinguish between public and private schools.) Note that the universe for this variable was ages 16-24 prior to 2013 but changes to 16-54 in 2013. For high school enrollment, how-

ever, the extended ages make little difference because of the very low high school enrollment above age 19.

- Average per pupil spending by state comes from the Census Bureau’s Census of Governments (Finance—Survey of School System Finances). Each state’s spending level is turned into a weight relative to the national average.

- The data for % LEP for first generation immigrants come from IPUMS/ACS samples. For first generation, the proportion of schoolchildren who either do not speak English at home (variable *language* not equal to 1) or are reported to not speak English or not speak English well (variable *speakeng* is 1 or 6) is defined here as LEP for the first generation. The % LEP for third-plus generation is assumed to be zero; % LEP for second generation is assumed to be halfway between the empirical estimate for first generation and the assumed 0% for third-plus generation.

- Following footnote 13 from *The New Americans* (National Research Council, 1997), Chapter 7, the relative costs of education for students who are LEP is 1.44, compared to 1 for non-LEP.

- So, the overall estimate for each age/immigrant group is percentage enrolled, weighted by relative state spending and relative costs based on how many students are LEP. This is then adjusted to the aggregate control as for all age profiles.

Aggregate: Table 3.16. Government Current Expenditures by Function, expenditures on primary and secondary education.

NH assump: 0.

Topcoding: Not applicable.

Public College and Other Postsecondary (variable name: college_s)

Source data: Based on enrollment in college, with half weight given to those half-time enrolled. The enrollment data uses the CPS variable “schlcoll.” As noted above, the universe changes from ages 16-24 before 2013 to 16-54 in 2013. For the projected age profiles, the 2013 proportions enrolled are used for ages 25-54, while the pooled sample of 2011, 2012, and 2013 is used to calculate proportion enrolled for ages 16-24. For the historical age profiles, the comparison between 1994 and 2013 suffers from this change in data collection, but the impact is minor because of the low levels of higher education enrollment for age 25+ and because of the adjustment of per capita age profiles to national-level aggregate flows. Thus, there is a slight

discrepancy in the age of the public higher education benefit receipt over the period, but no difference in the total expenditure or average expenditure across the total population.

Aggregate: Table 3.16. Government Current Expenditures by Function, expenditures on higher education (federal and state/local combined).

NH assumpt: 0.

Topcoding: Not applicable.

Workers' Compensation (variable name: *incwkcom_s*)

Source data: CPS individual-level variable *incwkcom*.

Aggregate: Government Social Benefits (NIPA Table 3.12, federal and s/l worker's compensation combined, but this is mostly state/local).

NH assumpt: 0.

Topcoding: 99997 for 1995, 1996, 1998-2001, 2003, 2004, 2006, 2007, 2009-2013, replaced with 2 x maximum value.

Bilingual Education (variable name: *bilingual_s*)

Source data: Age shape comes from the % limited English proficiency (LEP) for first generation and for second generation with two foreign-born parents (see details on *lowedu_s* for source data for LEP status). Note that this is supposed to represent the costs of a particular educational program designed to teach in two languages. It is included as a cost beyond just the general cost of educating students with LEP, which is already included in the *lowedu_s* age profile.

Aggregate: 2.5% of total amount spent on elementary and secondary education (this is the same assumption used in NA).

NH assumpt: 0.

Topcoding: Not applicable.

Details on Administrative Totals

Each measured flow is adjusted by a single multiplicative factor so that the population-weighted aggregate is consistent with totals reported in the annual tables of the National Income and Product Accounts, as compiled by the Bureau of Economic Analysis (see <http://www.bea.gov/national> [November 2016]). Note the handling of federal grants-in-aid to state and local governments: they are counted as government expenditures and not as state and local revenue, to avoid double counting this flow. An example for 2013 is shown, but all years are calculated in a similar fashion:

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NIPA Table Extracts for 2013 (Billions)			
	Table 3.1	Table 3.2	Table 3.3
	Consolidated	Federal	State/Local
Receipts	4,788.6	3,113.0	2,125.6
Tax receipts	3,283.6	1,811.8	1,471.8 [1]
Contributions for government social insurance	1,109.9	1,092.3	17.7 [1]
Income receipts on assets	244.4	164.7	79.7
Transfer receipts [2]	180.4	59.5	570.8
Portion that is federal grants-in-aid (GIA) to s/l	---	---	450.0
Surplus of gov't enterprises	(29.6)	(15.3)	(14.3)
Expenditures	5,662.9	3,762.1	2,350.8
Consumption expenditures	2,547.6	963.0	1,584.5
Portion spent on defense	617.1	617.1	---
Consumption expenditures LESS Defense	1,930.5	345.9	1,584.5 [1]
Government social benefits to persons	2,372.2	1,806.8	565.4 [1]
Government social benefits to rest of world	18.9	18.9	---
Other transfer payments [2]	46.4	496.3	---
Portion that is federal grants-in-aid (GIA) to s/l	---	450.0	---
Interest payments	617.7	417.4	200.3 [2]
Subsidies	60.2	59.7	0.5 [2]
Amounts Included in Fiscal Impacts Analysis			
GIA are attributed in the analysis as federal expenditures and subtracted from s/l to avoid double counting.			
	Total	Federal	State/Local
Total Taxes	4,393.6	2,904.1	1,489.5
Tax receipts	3,283.6	1,811.8	1,471.8
Contributions for government social insurance	1,109.9	1,092.3	17.7
Total Benefits	4,302.6	2,602.7	1,699.9
Consumption expenditures LESS Defense	1,930.4	345.9	1,584.5
Government social benefits to persons [3]	2,372.2	1,806.8	565.4 [3]
Federal grants-in-aid (GIA) to s/l	-	450.0	(450.0)
Taxes less benefits	91.0	301.4	(210.4)
Public Goods	1,360.2	1,159.4	200.8
Defense	617.1	617.1	---
Interest	617.7	417.4	200.3 [2]
Subsidies	60.2	59.7	0.5 [2]
Transfers and social benefits to ROW	65.2	65.2	---
[1] Included in all fiscal impacts analyses as congestible goods assigned to individuals.			
[2] Non-congestible goods included in some analysis scenarios, assigned on a marginal or per capita basis.			
[3] Includes \$450.0B in federal grants-in-aid to state/local government. Thus, the consolidated amount equals federal amount + state/local amount - federal grants-in-aid.			

Estimates of Education Transmission and Projection of Educational Attainment

In the future-looking analysis, we want to estimate the fiscal impact of persons in the future and that impact differs by education—persons of different education earn, pay taxes, qualify for and accrue benefits at different levels. For those people who begin the 75-year projection period very young or are born in the projection period, we need to estimate which education group they will be in when they grow up. This section describes the process used to project education for those who are ages 0-24 in 2012 or are born during the projection.

Estimating Education Prediction Functions

Using CPS samples from early years, we identified a cohort of parents who are age 25 or older (and thus have completed their educations), based on the co-residence of young children in their households. We then identified that cohort of children in a later year when the children are age 25 or older (and thus also likely to have completed their educations). Both parents and children are disaggregated, based on parental birth region, and separate CPS samples are taken as distinct data points. This gives a sufficient sample to estimate the average expected educational attainment of children based on the average educational attainment of parents. This was done separately by parental birth region, and a separate set of predictions was made for U.S.-born children versus non-U.S.-born children.

Specifically, the data come from CPS samples from 1994 to 2014. We observe the children's educational attainment each year from 2009 to 2014 and compare that to the parental educational attainment in each year from 1994 to 1999, generating a set of six paired parent-child averages for each region. We could not observe parental cohorts earlier than 1994 because there were no data collected on birthplace in earlier samples. We could not observe children's cohorts later than 2014 because that was the most recent CPS sample available at the time the analysis was done. The comparisons were done separately by regional groups of parental birth and also by whether the child was U.S. born or foreign born.

For the U.S.-born offspring, a cohort of parents for each region in each year X (where X varies from 1994 to 1999) is identified by the following characteristics: they have at least one co-resident U.S.-born own-child, ages 10-16, in the household (own-child as imputed by IPUMS-CPS) and the parent was born in that region. The cohort of children of these parents is identified in year $X + 15$ (where $X + 15$ varies from 2009 to 2014) by the following characteristics: they are ages 25-31, were born in the United States, and indicate that they have at least one parent born in the designated region.

For the foreign-born child case, the comparison is similar, except that the own-child of the parents must be born in the parental region and the children identified in the children's cohort must be born in the parental region.

The 10-16 year-old age group in year X was chosen to be as large an age group as possible to increase the sample size, but it had to also satisfy two additional criteria: (1) young enough that the children in year X were likely to still be living in the parental home, and (2) old enough that the children in year X + 15 have mostly all completed their education or at least achieved the highest educational category.

Educational outcomes were based on the CPS variable for years of schooling, but were grouped into more categories than the educational groups used for the fiscal flows analysis. This difference allowed for better identification of the parent-child educational relationships, but the education predictions of the offspring were recoded into the five educational attainment categories for use in the 75-year discounted flows calculations.

The parental birth regions were as follows: United States (or born abroad to citizen parents), Mexico, Central America (excluding Mexico), South America, Canada, Europe, Africa, East Asia, Southeast Asia, Other Asia (Eurasia, Central Asia, Oceania). The average education of the parent and child for each region for six consecutive CPS samples was calculated, and a regression was run to predict children's average educational attainment based on the parental average educational attainment. Canada and Africa were not included in the regressions because the sample sizes in the average were too small (in most years, fewer than 50 observations in the child cohort group).

The charts below (Figures 8-24 and 8-25) show the resulting estimates and linear regression equations that were used to predict educational attainment based on parental education. Two separate regression equations were used for two sets of regions: one included Mexico, South America, and Central America; the other included all of the other regions. Although the predictions for U.S.-born children of U.S.-born parents are not needed in estimating the 75-year discounted net fiscal impact of immigrants, the prediction equation for U.S.-born children of a U.S.-born parent was estimated as well for comparative purposes. The results are shown below. The parent-child paired averages are plotted as points; the predicted regression line representing educational assimilation is shown as well.

Projected Future Taxes and Benefits

Each tax and benefit flow must be projected forward 75 years from the starting year of 2012. This was done in several different ways to create different scenarios of future fiscal flows.

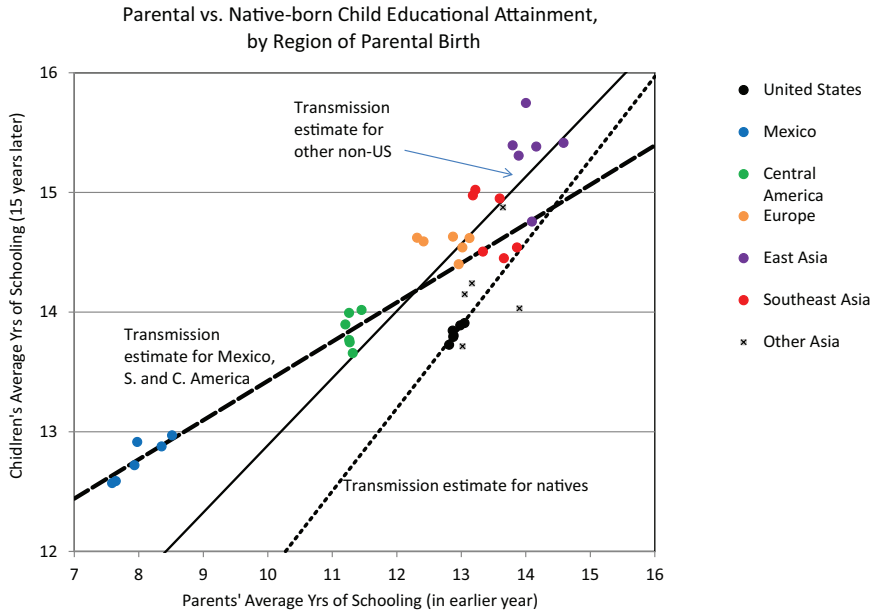


FIGURE 8-24 Predicted educational attainment for native-born children.

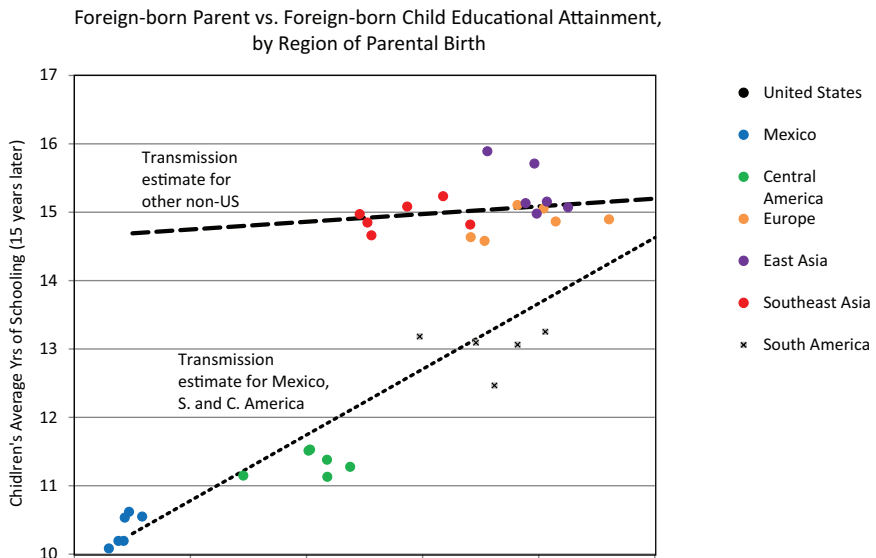


FIGURE 8-25 Predicted educational attainment for foreign-born children.

The simplest approach to understand is that for the no budget adjustments scenario. This scenario takes the per capita tax and benefit age profiles of 2012 and increases them each year by the assumed rate of productivity growth, 1 percent in our projections. This approach implies that the federal and state/local governments change nothing about its tax rates and spending and that no other aspects of the economy change. All per capita amounts at all ages, education, and immigration groups simply grow at 1 percent per year. This scenario leads to quickly increasing levels of debt, which the federal government may be able to sustain for quite some time but not indefinitely. State and local budgets function in a very different statutory environment compared to the federal government and typically have balanced-budget requirements that would constrain their ability to tax and spend in this fashion, but no provision is made for that requirement in this scenario.

More complex is the scenario that uses CBO's long-term budget projections and matches the growth of various fiscal flows to be consistent with that scenario. At the time the projection work was done, the most recent report was CBO's *2014 Long-Term Budget Outlook*, published in July 2014 (Congressional Budget Office, 2014a, <https://www.cbo.gov/publication/45471> [November 2016]), with supplemental data tables available at <https://www.cbo.gov/about/products/budget-economic-data#1> [November 2016]).

The method used by the panel for matching to the projections in the CBO report is simple for flows that are the same for all age groups. They are simply increased year over year by the same per capita growth rate reported in the supplemental tables. This is the case for general government congestible spending such as public administration, police, fire, etc. It is also the case when we apply public goods such as defense or interest on public debt on an average cost basis. When these items are applied on a marginal cost basis—that is, when they are assigned as zero cost attributed to immigrants—the nonimmigrant amounts are estimated to be a per capita amount that generates an aggregate level of these flows if the per capita amount is paid by each nonimmigrant (with the numbers of nonimmigrants provided by the Pew Research Center projections). Of course, the per capita value in the marginal cost case is only relevant for the one piece of data reported in Chapter 8 where 25-year-old natives are compared to 25-year-old immigrants.

Matching the CBO report for flows that do vary by age is more complex. In this case, in order to match overall per capita growth rates projected by CBO, we must project the amount of growth or decline that is inherent in population age structure by using the population projections from the Pew Research Center to find a baseline population-driven change and then calculate the additional change above or below that necessary to match CBO projections. To illustrate the calculation, imagine that a hypo-

thetical benefit flow is projected by CBO to rise from 100 to 110 per person in a year. If that flow is assigned to all age groups equally, then the adjustment to match the CBO projection is simply to increase the estimated age profile by 10 percent at each age. Imagine, however, that this flow mostly benefits the elderly. If the population of interest is aging, then from one year to the next, without altering the age profile at all, the population per capita flow may grow from 100 in year 1 to 102 in year 2, simply because the population is aging. To make the overall per capita flow equal to 110, we must first calculate the population-driven change of 100 to 102, and then multiply the overall age profile by $110/102 = 1.0784$ to grow the rest of the necessary amount. In this illustrative case, the overall per capita age profile must increase by only 7.8 percent to have the average flow increase by 10 percent.

The CBO projections cover only federal flows, so the panel's projections must make assumptions about what will happen with state and local government taxing and spending in order to project those flows into the future. For this case, we assumed both per capita spending and revenue grow at the same rate as per capita GDP in CBO's long-term budget outlook (Congressional Budget Office, 2014a). This holds the state-funded portion of Medicaid to a lower growth rate than is assumed for the program as a whole. This assumption implies that the federal government will assume any excess costs.

The CBO baseline projection is intended to be the best guess as to government budgets if current policy is completely unchanged. It does not include any economic feedbacks from this no-policy-change scenario but simply looks at current government tax and spending policy and combines that with the Census Bureau's population projections and assumptions about the future of economic variables such as interest rates. In this scenario, then, there is no attempt to deal with any future fiscal imbalances that may arise, and thus the overall deficit and national debt rise sharply.

Thus, the panel employed a third scenario in which, relative to the CBO baseline case, taxes are increased and benefits decreased (on a 50/50 basis) to achieve \$3 trillion in deficit reduction by 2035, relative to the baseline scenario. By trying different levels of tax increases and benefit reductions on an ad hoc basis, we found that the path that achieved this \$3 trillion in reduction was about 3 percent higher, by 2035, in taxes paid and about 3 percent lower in benefits received, compared to 2013 in the CBO baseline case. State and local budgets in this scenario are handled similarly to the way they are treated in the CBO baseline scenario.

**Projected Demography:
Survivorship, Emigration, and Number of Descendants**

The rates of fertility, mortality, and emigration used in projecting future survivorship, numbers of surviving offspring, and probability of remaining in the United States (as opposed to emigrating), are from the Pew Research Center projections discussed above in Chapter 2. Where the Pew Research Center rates vary by race/ethnic group, these have been combined by current race/ethnic composition to produce an overall population average.

Five generations of descendants are counted in the demographic projections, to cover all potential births for the 75-year forward-looking observation period.

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State and Local Fiscal Effects of Immigration

9.1 INTRODUCTION

Of concern to policy makers and the public are not only the net fiscal effects of immigration for the nation as a whole, currently and over time, but also the effects on revenues and expenditures for state and local governments. Immigrants are not distributed equally among the states or localities, and state and local governments differ in their fiscal policies generally and in their policies toward immigrants specifically. Consequently, any examination of the fiscal effects of immigration at the state and local levels and the extent to which immigrants are a net fiscal burden or benefit must consider the individual circumstances of each jurisdiction.

The 1997 National Research Council report, *The New Americans*, estimated the net state and local government fiscal effects of immigration for only two states: California and New Jersey (National Research Council, 1997). Around that time, based on 2000 Decennial Census long-form sample data, California alone accounted for nearly one-third of the total number of 31 million foreign-born, while California and New Jersey, together with Florida, Illinois, New York, and Texas, accounted for about 70 percent of the foreign-born population. By 2011-2013, American Community Survey (ACS) data indicate that a larger number of immigrants had become more widely dispersed so that California accounted for about one-quarter of the total number of 41 million foreign-born and the same six states accounted for about 65 percent of the foreign-born population. Other states with significant numbers of foreign-born in 2011-2013 included Arizona, Georgia, Maryland, Massachusetts, and Virginia. Relative to the total

population, the foreign-born increased from 11 percent of the U.S. total in 2000 to 13 percent in 2011-2013. By state, as of 2000, the foreign-born accounted for 14 percent or more of the population in only seven states, while by 2011-2013 the foreign-born accounted for 14 percent or more of the population in 12 states; see further discussion in Section 9.3 below.

This chapter examines the state and local government fiscal effects of immigration for each of the 50 states and the District of Columbia for the 3-year period 2011-2013. We focus on the individual as the unit of analysis—more specifically, the independent individual. The panel’s analysis here attributes the fiscal costs of (and taxes received from) dependents to their parents. This independent-person concept best acknowledges that the fiscal costs or benefits of children are due to the decisions of their parents independent of the children’s own immigrant status. In addition, as in portions of Chapter 8, we distinguish among three immigrant generations (first, second, and third-plus, where “third-plus generation” is used as shorthand for all U.S. residents with two native-born parents).

Before proceeding to describe our measurement methods and results, it is worth referencing the extensive discussion of how, theoretically, immigrants’ net costs to state and local governments are treated in *The New Americans* (National Research Council, 1997, pp. 254-270). That discussion, well worth reviewing, also details the range of simplifying assumptions that are necessary to derive empirical estimates of net costs. For example, for tractability, one must generally assume that immigrants use government services, such as public libraries or highway maintenance, at the same rate as natives (except when there is an explicit eligibility criterion excluding immigrants). Under this assumption, the costs of each service are allocated equally to immigrants and to natives on a per capita basis. In our evaluation, we present results making similar assumptions but then also examine what the relative costs of immigrants would be using different assumptions about whether the overall level of spending on a particular service is likely to change. For example, if the number and staffing of libraries is assumed to be unchanged, we would ask, “What is the relative cost of immigrants, assuming they produce zero marginal costs to state and local governments for library services?” The rationale behind the marginal and average cost choice for allocating the cost of public goods—particularly pure public goods such as national defense—is discussed in detail in Chapters 7 and 8.

A key difference between the fiscal impact study in this chapter and the state-level analyses in *The New Americans* (National Research Council, 1997) is the unit of analysis. In *The New Americans*, analysis was done at the household level using the nativity of the household head to determine immigrant status. This panel’s preferred estimates present results based on independent individuals, including the cost of dependent children in the net benefit or burden of their parent(s). This makes our results more com-

parable to those presented in Chapter 8 and better captures revenues and expenditures of all immigrants, independent of who is listed as householder. We do also present results on a household basis (see Table 9-7).

9.2 MEASUREMENT METHODS

We constructed our estimates from the Current Population Survey (CPS) Annual Social and Economic Supplement (ASEC). This nationally representative survey of people in households and group quarters, excepting institutions (e.g., jails, nursing homes), enabled us to identify generation status, including *first generation immigrants* (individuals who were born abroad who are noncitizens or naturalized citizens), *second generation individuals* (individuals who were born in the United States with at least one foreign-born parent), and *third-plus generation individuals* (individuals who were born in the United States with two native-born parents).¹ For each generation, we examined household living arrangements, income from various sources, and estimated taxes paid. It is important to account separately for second generation immigrants; this was not done in the state estimates in *The New Americans* (National Research Council, 1997), but it is done in the analysis in this chapter. At any point in time, many second generation immigrants are of working age and, when treated as independent individuals as in this report, contribute revenues that exceed costs. However, they may have represented a cost burden for their state and locality as children—costs that would not have been borne if their parent(s) had not entered the United States. Indeed, many second generation immigrants are themselves school-age children, whom we assign to their first generation parent(s) and who will likely represent a net burden for state and local governments for their education.

In order to achieve sufficient sample size for our analysis, we pooled 3 years of the CPS ASEC data covering 2011-2013.² Our sample represents, on a weighted basis and averaging over the 3 years, about 223 million independent people (essentially adults, as described below), of whom 16 percent are first generation and 8 percent are second generation. The remaining 76 percent are third-plus generation individuals, many of whose families have been in the United States for decades or centuries. The sample also repre-

¹The second generation also includes those born abroad to an American parent with their other parent foreign-born, and the third-plus generation also includes those who are born abroad to two American parents.

²Were the ACS to include a question on place of birth of parents, it would be possible to carry out an analysis of state-level fiscal effects of immigration, by immigrant generation, with a much larger sample and correspondingly greater reliability than is possible with the CPS ASEC, even pooling over 3 years (see Chapter 10).

sents about 85 million dependent children in each year.³ In our study, as discussed more fully below, revenues and expenditures for dependent children are assigned to their parent(s) for estimation purposes, independent of the child's own immigrant status.

We used the 3-year average of the 2011-2013 Census of Governments (COG) Annual Survey of State and Local Government Finances⁴ as our source for estimates of state and local revenues and expenditures of various kinds. Because different states provide different services at the state versus local level, we found it most useful to combine state and local revenues and expenditures to provide a complete picture of nonfederal government services. We did not have sufficient sample sizes or information on individuals to provide estimates for most substate areas—indeed, our estimates for many states are highly variable due to small sample sizes. These limited sample sizes also mean we do not estimate differences across places of origin.

We used simulation methods to piece together the data from the CPS ASEC and the 2011-2013 COG to estimate—for each independent person and his or her dependent children in the sample, weighted to be representative of their numbers in their state's population—the revenues each provides to his or her state and locality of residence and the expenditures incurred by that state and locality on his or her behalf (including expenditures on behalf of any dependent children). Additional description of this method, as well as of differences in this approach from that used in *The New Americans* (National Research Council, 1997), is provided in the relevant sections below.

We then compared the resulting estimates of net state and local government fiscal benefit (or burden) for independent persons, characterized by immigrant status (first, second, or third-plus generation). We present comparisons among the states on an average-per-independent person unit basis by generation and on an aggregate basis. It can be the case, at one extreme, that a state has not only a high net fiscal burden (expenditures exceed revenues) per first and/or second generation immigrant but also a large number of first and/or second generation immigrants. At the other extreme, a state may have not only a low net fiscal burden (or a net fiscal benefit) per first and/or second generation immigrant but also a small number of immigrants. And there can be any combination in between. We further assessed how differences among and within the states in estimates of

³Of these dependent children, considered in their own right, 4 percent are first generation, 21 percent are second generation, and 75 percent are third-plus generation. There are as many second generation dependents as independent adults; their costs in part explain why first generation independent persons are more costly.

⁴Available: https://www.census.gov/govs/local/historical_data.html [November 2016] .

net fiscal burden result from differences in characteristics of first and second generation immigrants, such as their age distribution, education level, and number of dependents as compared to native born individuals.

We also assess how differences among states in net fiscal burden result from differences in taxation and spending policies of individual states and their localities. We finally present some analyses to indicate the sensitivity of our main results to alternative assumptions about some components of revenues and expenditures. The key driver of differences has to do with education costs—the largest single part of state and local expenditures.

As defined in Chapter 7, the approach used in this chapter is a static analysis, producing estimates for a point in time. We did not attempt, for example, to play out, over time, the consequences for a state of its investment in education of first and second generation immigrant children on the skill mix of its labor force at a future date. Such an analysis would be difficult to conduct, not least because of the mobility of the population among the states so that children educated in one state may, to a greater or lesser extent, work as adults in another state.

Constructing Independent Person Units for Analysis

Most people live in households, as opposed to institutions and other similar living situations. Although a significant number of household residents live alone, many others live with relatives or with nonrelatives as in a group house. Many tax and expenditure programs are carried out on a family or household basis (e.g., state income and local property taxes and benefits from many low-income assistance programs, such as school meals). So the household would seem to be a natural unit of analysis, and *The New Americans* (National Research Council, 1997) carried out its analysis of net fiscal state and local government burdens for California and New Jersey on a per-household basis. Households, however, change in their composition within and across years and also may contain a mix of immigrant generations and a mix of related and unrelated members. For this conceptual reason, we conducted our analysis in terms of persons, which is also the unit for our analysis of fiscal effects over time at the national level in Chapter 8. Specifically, we constructed “independent person” units, consisting of one independent adult plus an assignment of any dependent children in whole or in part, as described below. Box 9-1 repeats the definitions of independent persons and dependent children given in Box 8-2 and also defines “independent person unit.”

Having classified each individual in the sample as independent or dependent, we then constructed independent person units for analysis. The assignment of dependent children in a household to independent

BOX 9-1
Definitions of Independent and Dependent Persons

Dependent: For the purpose of the panel's estimates, we consider dependents to be anyone: (1) under age 18, (2) ages 18 through 21 and in high school full time, or (3) ages 18 through 23 and in school full time or part time with income below half of the poverty level for one person. We also consider single individuals who are 18 through 23 and not in school but with income below half of the poverty level (for one person) who live with at least one independent person (typically a parent) as a dependent person; 1.2 percent of the population are in this category and they are treated as dependents but are not assigned education costs.

Independent person: Any person (most of whom are adults ages 18 and older) who is not a dependent child. We consider individuals ages 18 through 23 who are in school and working more than part time to be independent regardless of income level.

There are a few exceptions to the aforementioned criteria. If a person is married, he or she is considered independent irrespective of age. If a person is single with children and there are no family members other than children in the household, and the person is earning above half the poverty level, the person is considered independent. If there is a household with no members satisfying the above criteria for being independent, we consider any household member with income above the average amount in the household and ages 18 and older (or age 16 and older if all in the household are under 18) to be the independent person(s) in the household.

Independent person unit: Comprises the independent person plus assigned dependent children (which typically is half of any child assigned to two parents).

individual(s) includes all of their revenue and expenditure flows.⁵ Dependent children and their flows are split between parents if they reside in a two-parent household; they are assigned fully to the resident parent if in a single-parent household. They are assigned to the grandparent(s) if their parents are dependents; they are assigned to the householder when parents are not present and the householder is a foster parent or grandparent. Dependents in households with family members other than parents or grandparents are assigned to the highest earning independent relative.

⁵In the case when the dependent weights differ from that of the independent person they are assigned to, the dependents and their flow amounts are multiplied by their dependent weight and then divided by the weight of the independent person(s) they are assigned to.

Dependents in households without any family members are assigned to the highest earning independent household member. As with dependent children in two-parent households, nonchild dependents (related and unrelated) are split between married couples in cases where they are assigned to one of the spouses. Ninety-four percent of dependent children in our dataset are assigned to parents, with an additional 5 percent assigned to other family members (remaining dependents are assigned to nonfamily members).

Defining Immigrant Generations for Independent Person Units

The classification of independent person units by immigrant generation was performed on the basis of the independent person's status as follows: as in the other analyses in this report, independent individuals born abroad who are not citizens or who are naturalized citizens are classified as first generation immigrants. Independent individuals who are native born (including those born in Puerto Rico) and one or both of whose parents are foreign born are classified as second generation, as are those born abroad to an American parent with their other parent foreign-born. As defined above, the third-plus generation includes independent individuals who are native born to two native-born parents, as well as those who are born abroad to two American parents.

It bears repeating that independent person units are classified by the generation of the independent person; children are assigned to one or two independent persons on the basis of relationship and not generation. Thus, first generation independent person units with children may include children born abroad, those who in their own right would be classified as second generation, or both. Similarly, second generation independent person units with children may include children who are second or third generation when considered in their own right.

Estimating State and Local Revenues per Independent Person Unit

After constructing independent person units, the next step was to assign the revenues each such unit provided to its state and locality, using 2011-2013 COG data on taxes and other forms of revenue. Revenues (and expenditures) were assigned to each individual, with flows for dependents then being wrapped up to the independent persons who support them. So, for example, any benefits received by a child living with two parents would be assigned to the child and then half of the value would be pulled into each parent's independent person unit amounts. For many types of revenue, the amount assigned to each independent person unit depended on the unit's demographic and economic information. For example, state income taxes paid depended on income and taxes reported in the CPS data. Because CPS

data, on average, underreport income, amounts allocated for income and sales taxes were scaled up to equal COG state aggregates. The following types of revenues were assigned to independent person units (their percentage of all state and local revenues is shown in parentheses, but these average numbers mask the wide variations among states):

- property taxes (14%);
- general sales taxes (10%);
- selective sales taxes and public utilities (5%);
- individual income taxes (9%);
- business taxes (3%);
- higher education charges (tuition, etc.) (3%);
- school lunch sales (less than 1%);
- other education charges (less than 1%);
- insurance trust revenue (15%);
- other revenue (22%); and
- intergovernmental revenue (18%).

Table 9-11, in the Technical Annex to this chapter, provides detailed information on each revenue type and how the revenues for each type were allocated to independent person units.

Estimating State and Local Expenditures per Independent Person Unit

After the assignment of revenues, the next step was to assign state and local expenditures to independent person units using 2011-2013 COG data. Similar to revenues, these amounts often vary with individual characteristics; most notably, education expenses depend on the number and age of dependents. CPS noninstitutional Medicaid and public welfare expenditure amounts were scaled up to equal COG state aggregates. The following types of expenditures were assigned (their percentage of all state and local expenditures is shown in parentheses, and again these average values mask wide variations among states):

- higher education expenditures (7%);
- elementary and secondary education expenditures (16%);
- other education expenditures and libraries (4%);
- Medicaid and public welfare (16%);⁶
- insurance trust expenditures (11%);

⁶While it is included in the 16 percent of COG expenditures from Medicaid and public welfare, we do not assign the 2 percent of the total 2011-2013 COG expenditures that went to institutional Medicaid spending.

- other expenditures and capital outlays (45%); and
- intergovernmental expenditures (less than 1%).

Table 9-12 in the Technical Annex provides additional information on each expenditure type and how the expenditures for each type were allocated to independent person units.

Differences from the Approach Used in *The New Americans*

We followed a similar but not identical approach to that used in *The New Americans* (National Research Council, 1997, Ch. 6) to estimate the cross-sectional, point-in-time net fiscal effects of immigrants on state and local government budgets. Below we indicate key differences and the reasons for them:

- **Coverage.** The 1997 report constructed net fiscal effects estimates for just two states—California and New Jersey—using March 1995 CPS data for California and the 1990 Public Use Microdata Sample for New Jersey. By using 3 years of pooled CPS ASEC data in our analysis,⁷ we were able to construct estimates for all 50 states and the District of Columbia, although small sample sizes for many states impair the quality of the estimates.
- **Unit of analysis.** The 1997 report used households as the unit of analysis on the grounds that most government programs and services are planned on a household basis. As argued above, this panel views households as too heterogeneous in composition. We therefore used an independent person unit of analysis, consisting essentially of an adult and any dependent children (or shares of children if married). This difference in analysis unit means that dollar amounts of net effects per unit are not comparable between the 1997 study and this report (even if one accounted for inflation and other differences). The reason is that there are about twice as many independent person units as there are households. Section 9.6 includes information at the household level and highlights how differences in household size can affect relative costs or benefits.
- **Immigrant characteristics.** The 1997 report distinguished between households headed by foreign-born individuals (further catego-

⁷The CPS ASEC for any one year in 2011-2013 has about twice the sample size of the 1995 March CPS, and the pooling of the CPS ASEC over 3 years increases the CPS ASEC sample size of unique respondents twice again. We keep respondents appearing in 2 consecutive years in our sample for both years so that each of the 3 data years is fully representative of the non-institutionalized population in that year and we capture these respondents' different revenue and expenditure flows in each of the 2 years.

rized by region of origin—Europe/Canada, Asia, Latin American, and other) and households headed by native-born individuals. Other household members might include a mix of foreign- and native-born people. This study, in contrast, looked at three groups of independent persons: first, second, and third-plus generation. (Dependent children were assigned to one or two parents or another independent person in their household regardless of their own immigrant generation.) This grouping permitted us to ascertain the contribution of second generation independent persons, which in many states provide a return on the investment made in their education as children through taxes paid when they become working-age adults. We did not look at region of origin for first generation independent persons, in part due to small sample sizes for many states.

- ***Revenues and expenditures.*** The 1997 report broke out state from local revenues and expenditures, which we did not do because of differences among states in how functions such as education are allocated between the state and local governments. The 1997 report also looked at revenues and expenditures at the federal level for households living in California. In contrast, our analysis did not attempt to estimate federal fiscal effects for independent person units by state if those effects involved the individual directly rather than flowing through state or local governments. For example, federal funds for primary and secondary (K-12) education are included because the money is directed to the states and then distributed. In contrast, federal Social Security payments are excluded because the funds are directly sent to individuals. Similarly, state income taxes are included but not federal income taxes.

9.3 GEOGRAPHIC AND DEMOGRAPHIC DISTRIBUTION OF IMMIGRANTS

As background for our discussion of state and local fiscal effects, we provide information for two periods, 2011-2013 and 2000, not only on the geographic distribution of immigrants by state in the two time periods but also on variations among states in the demographic composition of their immigrant populations. For comparability when examining changes over time, we look at distributions of the foreign-born (noncitizens or naturalized citizens born abroad), which corresponds to the sum of “independent

persons” in the first generation plus any of their children born abroad.⁸ Comparisons across and within states among different groups are for the three generations of independent persons as defined above.

Geographic Distribution of the Foreign-born, 2000 Compared to 2011-2013

Table 9-1 shows the percentage of foreign-born in each state’s population for the period 2011-2013 compared with 2000, using data from the 2011-2013 ACS and the 2000 Decennial Census long-form sample. The states are ranked from highest to lowest percentage of foreign-born in 2011-2013. Also shown is the percentage point change between 2000 and 2011-2013. Percentages are expressed in whole numbers without decimals to remind the reader that the data are estimates from samples of the resident population.

For the United States as a whole, the foreign-born population as a percentage of the total increased by 2 percentage points over the period—from 11 percent in 2000 to 13 percent in 2011-2013. Percentage point increases by state ranged narrowly from no change in several states to 4 points in Maryland. Accordingly, it is not surprising that the patterns of geographic dispersion of the foreign-born were broadly similar in the two periods. Thus, the seven states with the highest percentages of foreign-born in 2011-2013—California, Florida, Hawaii, Nevada, New Jersey, New York, and Texas—were the states with the highest percentages of foreign-born in 2000, although overall the concentration of foreign-born individuals in these states has declined.

Table 9-1 also shows the numbers of foreign-born in 2011-2013 and the increase from 2000 (in thousands) by state. Numeric gains are important to keep in mind when considering how immigration may affect states’ fiscal pictures and their policies toward immigrants. **Every state has experienced positive net numeric growth in its immigrant population since 2000.** California, Florida, and Texas gained between 1 million and 1.4 million immigrants over the period, and New York State gained over 500 thousand. Six states gained between 300 and 500 thousand, five states gained between 200 and 300 thousand, and seven states gained between 100 and 200 thousand immigrants. Of the 22 states that experienced increases in numbers of immigrants of 100 thousand or more, 12 had populations with

⁸Our analysis in this chapter is subject to the same caveats about the difficulties of identifying immigrants with existing data that are outlined in the Technical Annex to Chapter 2 above. In addition, as discussed further below, our state-level analysis is compromised by small sample sizes for many states in the CPS ASEC, even after pooling data over 3 years.

TABLE 9-1 Percentage Foreign-born Population by State, 2011-2013 and 2000, Ordered from Highest to Lowest Percentage Foreign-born in 2011-2013

State	Percentage Foreign-born		Percentage Point Change Since 2000	Number Foreign-born (in thousands)	
	2011-2013	2000		2011-2013	Change Since 2000
California	27	26	+1	10,262	1,397
New York	22	20	+2	4,376	508
New Jersey	21	18	+3	1,902	425
Florida	19	17	+2	3,760	1,089
Nevada	19	16	+3	528	211
Hawaii	18	18	0	249	37
Texas	16	14	+2	4,273	1,373
Massachusetts	15	12	+3	1,010	237
Connecticut	14	11	+3	491	121
District of Columbia	14	13	+1	90	16
Illinois	14	12	+2	1,801	272
Maryland	14	10	+4	835	317
Arizona	13	13	0	880	224
Rhode Island	13	11	+2	138	19
Washington	13	10	+3	922	308
Virginia	11	8	+3	937	367
Georgia	10	7	+3	955	378
Colorado	10	9	+1	502	132
New Mexico	10	8	+2	204	55
Oregon	10	8	+1	384	94
Delaware	9	6	+3	78	33
North Carolina	8	5	+3	738	308
Utah	8	7	+1	240	82
Alaska	7	6	+1	52	15
Kansas	7	5	+2	195	60
Minnesota	7	5	+2	400	140
Idaho	6	5	+1	94	30
Michigan	6	5	+1	610	87
Nebraska	6	4	+2	120	45
New Hampshire	6	4	+2	74	20
Oklahoma	6	4	+2	214	83
Pennsylvania	6	4	+2	778	270
Arkansas	5	3	+2	135	61
Indiana	5	3	+2	310	123
Iowa	5	3	+2	142	50
South Carolina	5	3	+2	227	111
Tennessee	5	3	+2	302	143
Wisconsin	5	4	+1	273	79

TABLE 9-1 Continued

State	Percentage Foreign-born		Percentage Point Change Since 2000	Number Foreign-born (in thousands)	
	2011- 2013	2000		2011- 2013	Change Since 2000
Louisiana	4	3	+1	177	61
Missouri	4	3	+1	239	87
Ohio	4	3	+1	465	126
Vermont	4	4	0	26	3
Alabama	3	2	+1	165	77
Kentucky	3	2	+1	143	62
Maine	3	3	0	46	9
North Dakota ^a	3	2	+1	19	6
South Dakota	3	2	+1	24	10
Wyoming	3	2	+1	20	9
Mississippi	2	1	+1	66	26
Montana ^a	2	2	0	20	3
West Virginia	2	1	+1	28	8
United States	13	11	+2	40,918	9,910

^aEstimate is from the American Community Survey 5-year estimates because 3-year estimates are not available due to small sample size.

SOURCE: Foreign-born in 2000 from 2000 Decennial Census long-form sample, Summary File 4, Table QT-P14, Population Group—Total population, Nativity, Citizenship, see <http://www.census.gov> [November 2016]. Foreign-born in 2011-2013 from American Community Survey 3-year estimates, Table S0501: Selected Characteristics of the Native and Foreign-Born Populations, see <http://www.census.gov> [November 2016].

13 percent (the U.S. average) or more foreign-born in 2011-2013, and 10 had populations with smaller percentages of foreign-born.

**Geographic Distribution of Independent
Persons by Generation, 2011-2013**

Turning to our analysis for 2011-2013, we first consider the composition by state of independent person populations from the CPS ASEC, classified by immigrant generation (first, second, or third-plus). Table 9-2 provides estimates of the three immigrant generations as percentages of each state’s population of independent persons, ordered from highest to lowest percentage for the first generation. We use this ordering for subsequent tables as well, to help readers focus on the states with the largest percentages of first generation independent persons, which are also the states

TABLE 9-2 Percentage Independent Persons by Immigrant Generation, by State, 2011-2013, in Order from Highest to Lowest Percentage (first generation independent persons)

State	Immigrant Generation (% of total independent persons in state)		
	First	Second	Third+
California	35	15	50
New Jersey	28	12	60
New York	27	12	60
Nevada	25	11	64
Florida	23	9	68
Texas	21	10	69
Hawaii	21	15	64
Maryland	19	7	74
Arizona	18	11	70
District of Columbia	17	8	74
Massachusetts	17	12	71
Illinois	17	8	75
Washington	17	10	74
Connecticut	16	11	72
Rhode Island	16	14	70
Virginia	14	5	82
Delaware	12	4	83
Georgia	12	3	85
New Mexico	12	7	81
Oregon	11	8	81
Colorado	11	7	82
Alaska	11	7	82
Nebraska	11	4	85
Idaho	10	5	85
North Carolina	10	4	87
Utah	9	6	85
Michigan	9	6	85
Minnesota	9	5	86
Kansas	8	4	88
Pennsylvania	7	6	87
Iowa	6	3	90
New Hampshire	6	8	86
Wisconsin	6	5	90
Tennessee	5	2	92
Arkansas	5	2	93
Kentucky	5	2	93
South Carolina	5	2	93
Oklahoma	5	3	92
Vermont	5	8	87

TABLE 9-2 Continued

State	Immigrant Generation (% of total independent persons in state)		
	First	Second	Third+
Indiana	5	4	92
Ohio	5	4	91
Louisiana	4	2	94
Missouri	4	3	93
South Dakota	4	4	92
Alabama	4	2	94
Maine	3	7	89
North Dakota	3	5	92
Wyoming	3	4	93
Montana	3	6	92
Mississippi	3	1	96
West Virginia	1	2	96
United States	16	8	76

NOTE: See text for definitions of independent person and immigrant generation. Rows may not sum to 100% for a state due to rounding error (values of 0.5 to 0.9 percent are rounded up).

SOURCE: Panel tabulations of the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

with the largest sample sizes for the first generation. (Tables 9-13 and 9-14 in the Technical Annex provide, respectively, annualized weighted sample counts and total 3-year unweighted counts of first, second, and third-plus generation independent persons by state in the pooled CPS ASEC data for 2011-2013.)⁹ For the United States as a whole, first generation independent persons are 16 percent of all independent persons, second generation independent persons are 8 percent of all independent persons, and third-plus generation independent persons are 76 percent of all independent persons.¹⁰

By state, West Virginia has the lowest proportion of first generation

⁹As noted in Tables 9-13 and 9-14 in the annex, the full 2011-2013 sample does not account for overlap among sample cases due to the rotation group design of the survey.

¹⁰The estimated percentages of first generation independent persons in 2011-2013 in Table 9-2 are generally higher than the corresponding estimated percentages of foreign-born in Table 9-1 (e.g., 16% versus 13% for the United States). The reason is that the denominator in Table 9-2 is all independent persons (essentially all adults) and not the total population, combined with the fact that, proportionally, the first generation includes more independent persons compared with dependent children (considered in their own right) than does the remaining population. Nonetheless, the ordering of states is not that different between Tables 9-1 and 9-2.

independent persons in the state's total independent population (1%) and California has the highest proportion (35%). Ten states have first generation independent populations that make up less than 5 percent of the state's total independent population.¹¹ First generation independent individuals in these 10 states (and the other 26 states below the national average of 16%) are less represented in the first generation independent population nationwide than are all of their independent individuals in the national independent population. Seven states have first generation independent populations that comprise at least 20 percent of their total independent population.¹² First generation individuals in these seven states (and the other seven states and District of Columbia above the national average) are more represented in the first generation independent population nationwide than are all of their independent populations in the national independent population. Consequently, caution should be taken in comparing *national* averages of state and local revenue and expenditure flows for the first, second, and third-plus generations, due to the differing composition of individuals in each state among the three generations.

Demographic Distributions of Independent Persons, 2011-2013

The three immigrant generations of independent persons that we define differ among themselves within and among states on characteristics that affect the net fiscal benefit or burden they entail for their state (and its localities). Among these characteristics are age, number of dependent children associated with the independent person unit, unit income, and education, for which we provide a broad overview below.

Age

The age of an independent person has an effect on the person's net fiscal benefit or burden for the state and locality. Working-age people with employment, for example, typically pay significantly more in taxes than they receive from expenditures and therefore provide a net fiscal benefit to their state and locality, other things equal. However, if their independent person unit includes dependent children, these benefits are lessened and often reversed because of costs for the children's education and other services. We observed these patterns in the national level analyses in Chapter 8 as well. The net fiscal benefit or burden of retirees will depend on a state's

¹¹These 10 states are Alabama, Louisiana, Maine, Mississippi, Missouri, Montana, North Dakota, South Dakota, West Virginia, and Wyoming.

¹²These seven states are California, Florida, Hawaii, Nevada, New Jersey, New York, and Texas.

tax structure and social services for the elderly; for low-income retirees on Medicaid, the net fiscal impact is likely to be negative.¹³

Table 9-3 shows the average age of independent persons by state and generation and the percentage who are 65 and older in our data for 2011-2013. Nationwide, first generation independent persons are 45.8 years on average; second generation independent persons are older, at 46.5 years on average; and third-plus generation independent persons are older still, at 48.5 years on average. Nationwide, the elderly population (age 65+) comprises 14 percent of first generation independent persons, 23 percent of second generation independent persons, and 19 percent of third-plus generation independent persons.

The general patterns evident for the nation hold for states, but there are some significant exceptions. For example, among the seven states with the highest percentages of first generation independent persons, the average age of this generation varies from 44 years in Texas to 51 years in Hawaii. Florida has higher-than-average percentages of people ages 65 and older in all three generations (20%, 27%, and 24%, respectively), while Hawaii has even higher percentages of people ages 65 and older in its first and second generation independent person populations (24% and 32%, respectively) but a lower-than-average percentage in its third-plus generation independent person population (17%).

Number of Dependent Children

The number of children in an independent person unit has an important effect on its net state and local benefit or burden, primarily stemming from the expenditure side of the ledger, for at least two reasons. First, education expenditures, which are allocated to school-age children, are a large item in state and local budgets (23% on average). Second, the more children in an independent unit, the larger the amount the unit is assigned for expenditures that are allocated to all persons (these expenditures total 49% on average—4% on other education and libraries and 45% on all other—see Table 9-12 in the Technical Annex to this chapter). Similarly, revenues that are allocated to all persons also total about half of revenues—see Table 9-11 in the Technical Annex to this chapter.¹⁴

¹³As indicated in Table 9-12, Medicaid costs for the institutionalized, who are not represented in the CPS ASEC, are not included in the allocation of expenditures to independent person units.

¹⁴A few of the expenditures and revenues we include in the group of those allocated to all persons are allocated selectively based on age. Liquor store expenditures, which are part of other expenditures, are allocated to all persons ages 21 and older. Motor fuels and tobacco product sales taxes, which are part of selective sales taxes, and motor vehicle license and motor vehicle operators license revenues, which are part of other revenues, are allocated to

TABLE 9-3 Average Age and Percentage, Ages 65 and Older, Independent Persons by Immigrant Generation by State, 2011-2013

State	Immigrant Generation					
	First		Second		Third+	
	Avg. Age	% 65+	Avg. Age	% 65+	Avg. Age	% 65+
California	47	14	41	14	48	19
New Jersey	45	14	52	35	49	19
New York	48	19	49	28	48	17
Nevada	47	15	44	24	48	18
Florida	49	20	49	27	51	24
Texas	44	9	41	12	47	17
Hawaii	51	24	51	32	48	17
Maryland	45	13	45	20	48	18
Arizona	46	13	46	22	49	19
District of Columbia	42	10	39	11	45	17
Massachusetts	47	16	53	38	48	18
Illinois	45	13	45	22	49	19
Washington	45	14	47	22	48	18
Connecticut	47	15	55	38	49	17
Rhode Island	47	14	54	40	48	18
Virginia	44	11	44	13	49	19
Delaware	42	10	53	38	50	21
Georgia	42	9	39	9	47	16
New Mexico	44	8	45	18	50	23
Oregon	44	9	48	24	49	20
Colorado	44	12	47	21	47	17
Alaska	47	15	41	11	46	12
Nebraska	40	6	49	32	48	19

continued

Idaho	43	11	43	17	49	21	48	20
North Carolina	42	6	44	20	49	21	48	19
Utah	42	7	43	15	45	16	44	15
Michigan	46	17	55	39	49	19	49	20
Minnesota	42	11	52	34	48	18	48	18
Kansas	43	10	47	26	48	21	48	20
Pennsylvania	44	13	58	45	49	20	49	21
Iowa	41	6	51	36	48	18	48	18
New Hampshire	46	13	57	42	48	17	49	18
Wisconsin	44	10	57	41	49	19	49	20
Tennessee	40	8	46	18	49	20	48	19
Arkansas	39	8	42	14	49	22	48	21
Kentucky	41	9	44	18	48	19	48	18
South Carolina	43	10	49	20	49	20	49	20
Oklahoma	42	7	40	15	48	20	48	19
Vermont	50	22	56	35	49	18	49	20
Indiana	43	10	47	24	49	20	49	20
Ohio	44	16	54	32	49	20	49	20
Louisiana	45	13	44	14	48	19	48	19
Missouri	44	12	52	32	48	19	48	20
South Dakota	41	8	59	49	48	18	48	19
Alabama	42	9	48	19	49	19	48	19
Maine	47	16	59	44	49	19	50	21
North Dakota	41	7	62	58	46	15	47	17
Wyoming	43	11	54	35	47	16	47	17
Montana	45	15	61	52	49	22	49	23
Mississippi	43	9	44	14	49	20	49	20
West Virginia	48	17	52	31	50	19	50	19

TABLE 9-3 Continued

State	Immigrant Generation					
	First		Second		Third+	
	Avg. Age	% 65+	Avg. Age	% 65+	Avg. Age	% 65+
Top 15 States by % in First Generation	47	15	45	21	48	19
United States	46	14	47	23	48	19

NOTES: See text for definitions of independent person and immigrant generation. States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2).

SOURCE: Panel tabulations of the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

In our data for 2011-2013, nationwide, first generation independent persons have an average of 0.52 children per unit, second generation persons have an average of 0.33 children per unit, and third-plus generation persons have an average of 0.36 children per unit (see Table 9-15 in the Technical Annex to this chapter). For most states, independent individuals in the second generation have fewer children than those in the first and third-plus generations, although the second and third-plus generations are quite similar (independent persons of the second generation in California have more children on average than do those in the third-plus generation). Among the seven states with the largest percentages of first generation independent persons, the average number of children per first generation independent person unit ranges from 0.39 in Florida to 0.64 in Texas, while the range per second generation independent person unit is from 0.24 in New Jersey to 0.47 in Texas. The range per third-plus generation independent person unit is from 0.31 in Florida to 0.38 in Texas. For the next seven states and District of Columbia that have between 15 and 20 percent of their independent persons in the first generation, the variation is even greater, with the District of Columbia having the lowest average number of children in each generation. States with smaller shares of immigrants also show wide variation in their average number of children per independent person, with Vermont averaging 0.29 children while Utah averages 0.53 children.

Income and Education

Income levels affect taxes paid and benefits received for independent persons and their children (see Table 9-16 in the Technical Annex to this chapter). Nationwide, average adjusted gross income (AGI) is lowest among first generation independent person units at about \$29,450 per unit, considerably higher among second generation independent person units at \$34,900 per unit, and higher still among third-plus generation units at \$35,900 per unit. Among the seven states with the highest percentages of first generation independent person units, average AGI for the first generation varies from \$26,100 per unit in Texas to \$35,700 per unit in New Jersey. Average AGI for the second generation in these seven states varies from \$28,250 per unit in Nevada to \$37,900 per unit in New Jersey. For third-plus generation independent person units, New Jersey again has the highest average income of \$47,250, in contrast to the lowest average income for third-plus generation independent person units of \$33,800 in

all persons ages 18 and older. Alcoholic beverage sales taxes, which are part of selective sales taxes, and liquor store revenues, which are part of other revenues, are allocated to all persons ages 21 and up.

Florida. Among states with over one-quarter of their independent persons in the first or second generation (or at least 15 percent of independent individuals in the first generation), Arizona has the lowest average income for first generation independent person units (\$25,100).

Income levels relate to education levels, and education levels differ significantly across generations. A larger percentage of first generation independent persons have not received a high school degree (28%) than is the case for the second and third-plus generations (10% and 9%, respectively). However, the percentage of first generation immigrants with advanced degrees beyond a bachelor's degree is comparable to that of the other two generations (all between 10% and 12%; Table 9-17 in the Technical Annex to this chapter presents the state-by-state figures). The percentage with at least a bachelor's degree is likewise comparable between the first and third-plus generations (28% and 29%, respectively). However, these statewide averages in part mask differences in higher education both across and within states. For example, in California, 8 percent of first generation independent persons have more than a bachelor's degree, compared with 10 percent for second generation and 12 percent for third-plus generation independent persons. The District of Columbia has the highest share of individuals with more than a bachelor's degree (29%), but 45 percent of second generation independent persons have more than a bachelor's degree compared to 27 and 28 percent, respectively, of first and third-plus generation individuals. Part of the difference comes about because many of the states with small immigrant populations also have lower numbers of residents with more than a bachelor's degree.

9.4 FISCAL VARIATION AMONG STATES, 2011-2013

We next look at state and local government revenues and expenditures by state and immigrant generation. States must generally balance their budgets year by year, but they vary greatly in the types and amounts of taxes they levy and the level of services they provide. Given the large differences in population size among states, it is important when examining state and local government fiscal data to convert the information to an appropriate population base. While we have calculated revenues, expenditures, and net fiscal effects for all states, the discussion below focuses on the 14 states and the District of Columbia with at least one-quarter of independent persons in the first or second generation (these states and the District of Columbia also have the 15 highest percentages of first generation individuals). Calculations are available, and presented in the tables, for all states, but caution must be exercised when examining differences for other states, especially those near the bottom of the tables, due to limited sample sizes. We also round all dollar amounts to the nearest \$50 to emphasize that the basis for

our estimates is a relatively small sample. In the remainder of the chapter, we present estimates of revenues, expenditures, and net fiscal effects on a per-independent person unit basis (where dependent children and their revenues and expenditures are assigned to their parents).

State and Local Government Revenues

While most state governments rely on general sales and income taxes and local governments rely primarily on property taxes, the composition of state and local revenues varies substantially. Nine states (including Florida, Nevada, Texas, and Washington) do not levy a broad-based personal income tax, and five states do not levy a general sales tax.

Table 9-4 provides population-based revenue estimates by state for all independent person units and those in each generation with per-unit amounts derived using the allocation process described in Table 9-11 in the Technical Annex to this chapter. For the United States as a whole, 2011-2013 annualized state and local government revenue averaged \$14,700 per independent person unit. This amount masks considerable variation by state, particularly at the higher end. Thus, 17 states averaged between \$11,650 and \$12,950 per independent person unit; 13 states averaged between \$13,000 and \$14,500; 16 states averaged between \$14,550 and \$17,800; and five states exceeded \$17,800 per independent person unit. The five jurisdictions with the highest average state and local government estimated revenue per independent person unit were Alaska (\$36,400), the District of Columbia (\$27,600), Wyoming (\$24,150), New York (\$22,400), and North Dakota (\$20,300), while the five states with the lowest state and local government estimated revenue per independent person unit were Idaho (\$11,650), Florida (\$11,800), New Hampshire (\$11,850), Georgia (\$11,900), and Arizona (\$11,900). If we limit our analysis to the 15 jurisdictions with the largest shares of first and second generation immigrants, the average revenue per independent person unit is \$15,750 and varies from \$11,800 in Florida to \$27,600 in the District of Columbia.

By generation nationwide, state and local government revenue averaged about the same amount per first generation and third-plus generation independent person unit: \$14,350 and \$14,700, respectively. Revenue was higher for the second generation, averaging \$15,500 per second generation independent person unit. However, these national similarities among generations mask large differences across states among generations. For the 15 jurisdictions with the largest shares of first and second generation immigrants, the average revenue for an independent person unit in the third-plus generation exceeds that of a unit in the first generation by \$1,450 (\$16,100 versus \$14,650) and is only slightly lower than that of a unit in the second generation (\$16,200).

TABLE 9-4 State and Local Revenues per Independent Person Unit (rounded to nearest \$50), by Immigrant Generation by State, 2011-2013

State	Immigrant Generation			All	Difference: First less Third+
	First	Second	Third+		
California	\$15,600	\$18,450	\$19,150	\$17,800	-\$3,550
New Jersey	14,350	15,050	16,700	15,850	-2,350
New York	20,200	22,200	23,450	22,400	-3,250
Nevada	11,500	12,350	13,100	12,650	-1,600
Florida	11,050	11,550	12,050	11,800	-1,000
Texas	11,950	12,950	12,850	12,650	-900
Hawaii	14,200	14,850	16,400	15,700	-2,200
Maryland	13,900	13,850	14,350	14,250	-500
Arizona	11,000	12,000	12,150	11,900	-1,150
District of Columbia	24,700	28,400	28,200	27,600	-3,500
Massachusetts	14,900	15,300	16,600	16,150	-1,700
Illinois	12,450	13,850	14,750	14,300	-2,250
Washington	14,650	14,900	15,250	15,100	-600
Connecticut	14,800	15,900	17,050	16,550	-2,250
Rhode Island	14,300	13,950	15,900	15,350	-1,600
Virginia	12,500	13,500	12,800	12,800	-300
Delaware	16,050	15,300	16,150	16,100	-100
Georgia	10,850	12,200	12,050	11,900	-1,200
New Mexico	17,450	15,400	14,850	15,200	2,600
Oregon	16,050	15,500	15,150	15,250	950
Colorado	12,950	14,200	14,250	14,100	-1,250
Alaska	37,250	38,700	36,100	36,400	1,150
Nebraska	15,700	15,550	16,400	16,300	-700
Idaho	10,400	11,600	11,800	11,650	-1,400
North Carolina	12,800	13,500	13,250	13,200	-450
Utah	13,650	13,650	13,900	13,850	-250
Michigan	12,300	12,450	13,250	13,100	-950
Minnesota	14,550	14,400	16,150	15,900	-1,600
Kansas	13,750	13,200	13,800	13,750	0
Pennsylvania	14,050	12,050	13,550	13,500	500
Iowa	15,750	15,000	15,150	15,200	600
New Hampshire	11,500	11,600	11,900	11,850	-400
Wisconsin	13,850	13,450	14,550	14,450	-700
Tennessee	12,000	11,750	12,250	12,250	-250
Arkansas	11,950	12,800	12,200	12,200	-300
Kentucky	12,200	13,750	12,050	12,100	150
South Carolina	13,150	14,550	12,900	12,950	300
Oklahoma	12,100	14,300	12,800	12,850	-700
Vermont	15,650	14,950	15,650	15,550	0
Indiana	12,400	12,350	12,250	12,250	150

TABLE 9-4 Continued

State	Immigrant Generation			All	Difference: First less Third+
	First	Second	Third+		
Ohio	13,450	14,450	14,850	14,750	-1,350
Louisiana	12,950	14,450	14,650	14,550	-1,650
Missouri	12,150	12,800	12,500	12,500	-350
South Dakota	12,900	10,550	13,500	13,350	-600
Alabama	12,650	12,200	12,500	12,500	150
Maine	12,750	12,050	12,700	12,650	50
North Dakota	20,700	17,050	20,450	20,300	250
Wyoming	24,100	21,950	24,250	24,150	-150
Montana	15,000	10,700	13,450	13,350	1,550
Mississippi	14,450	15,050	14,350	14,400	100
West Virginia	16,100	13,350	12,950	13,000	3,100
Top 15 States by % in First Generation	14,650	16,200	16,100	15,750	-1,450
United States	14,350	15,500	14,700	14,700	-350

NOTES: See text for construction of revenues by state and generation. Because the difference between first and third-plus generation revenue amounts is taken from the unrounded estimates and then rounded to the nearest \$50, the value may differ from the first generation column less the third-plus due to rounding in some cases. States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2). Caution should be taken when examining the state-level estimates, especially those near the bottom of the table, because of small first (and second) generation populations for many states.

SOURCE: Panel estimates implemented on the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

State and Local Government Expenditures

Spending varies across states, with some states raising and spending more money than others. Note that, due to balanced budget rules, the states that raised more revenues almost always spent more funds. Table 9-5 provides population-based expenditure estimates by state for all independent person units and by generation with per-unit amounts derived using the allocation process documented in Table 9-12 in the Technical Annex to this chapter. For the United States as a whole, 2011-2013 annualized state and local government expenditures averaged \$13,850 per independent person unit, or about \$900 less than was raised in revenue. Sixteen states had average expenditures between \$10,450 and \$11,950 per independent unit; 17 states were between \$12,000 and \$14,000; 13 states were between

\$14,050 and \$16,700; and five states exceeded \$16,700 of expenditures per independent unit. The five states with the highest average state and local government expenditures per independent unit were Alaska (\$29,950), California (\$16,750); the District of Columbia (\$28,500), New York (\$20,700); and Wyoming (\$20,750); the lowest were Arizona (\$10,900); Arkansas (\$10,900), Florida (\$10,850), Idaho (\$10,450, and Indiana (\$11,250). If the analysis is limited to the 15 states with the largest state share in the first generation, the average spending per independent person unit is \$14,950 (which is higher than the national average) and ranges from \$10,850 in Florida to \$28,500 in the District of Columbia: the same two lowest and highest jurisdictions among these 15 for average revenue per independent person unit.

TABLE 9-5 State and Local Expenditures per Independent Person Unit (rounded to nearest \$50), by Immigrant Generation by State, 2011-2013

State	Immigrant Generation				Difference: First less Third+
	First	Second	Third+	All	
California	\$17,650	\$16,900	\$16,050	\$16,750	\$1,600
New Jersey	16,200	12,750	16,000	15,650	200
New York	21,700	17,800	20,850	20,700	800
Nevada	12,800	11,350	11,150	11,550	1,650
Florida	11,450	10,350	10,700	10,850	700
Texas	14,000	13,350	11,450	12,200	2,500
Hawaii	14,900	13,600	14,700	14,600	200
Maryland	13,950	11,800	13,800	13,700	150
Arizona	12,350	11,750	10,400	10,900	1,950
District of Columbia	27,500	21,300	29,500	28,500	-2,000
Massachusetts	17,150	13,000	16,150	15,950	1,050
Illinois	15,150	13,250	13,750	13,950	1,400
Washington	17,750	14,300	14,500	15,000	3,250
Connecticut	15,400	12,300	15,750	15,300	-350
Rhode Island	15,800	11,800	14,300	14,200	1,500
Virginia	13,050	12,200	11,950	12,150	1,100
Delaware	16,550	13,250	15,450	15,450	1,150
Georgia	12,100	11,550	11,200	11,300	850
New Mexico	19,950	15,150	13,850	14,650	6,150
Oregon	17,950	13,250	13,450	13,950	4,500
Colorado	15,950	13,150	13,300	13,600	2,600
Alaska	33,300	32,950	29,250	29,950	4,050
Nebraska	17,900	14,100	14,500	14,850	3,400
Idaho	11,450	11,000	10,300	10,450	1,150
North Carolina	13,450	11,750	11,750	11,900	1,700

TABLE 9-5 Continued

State	Immigrant Generation			All	Difference: First less Third+
	First	Second	Third+		
Utah	15,550	14,100	13,400	13,650	2,200
Michigan	12,600	9,900	12,450	12,300	150
Minnesota	19,650	11,100	13,950	14,300	5,650
Kansas	16,200	12,050	12,600	12,900	3,600
Pennsylvania	15,300	10,300	13,300	13,250	2,000
Iowa	16,800	12,450	13,600	13,750	3,200
New Hampshire	12,050	9,850	11,350	11,300	700
Wisconsin	17,550	11,900	13,000	13,200	4,550
Tennessee	12,700	10,500	11,500	11,550	1,150
Arkansas	13,150	11,150	10,750	10,900	2,350
Kentucky	13,150	11,300	11,950	12,000	1,200
South Carolina	13,000	12,100	12,300	12,350	700
Oklahoma	11,900	12,350	11,350	11,400	600
Vermont	15,400	11,550	14,600	14,400	800
Indiana	12,250	10,600	11,200	11,250	1,050
Ohio	13,000	10,750	13,350	13,200	-300
Louisiana	13,400	15,550	14,850	14,800	-1,500
Missouri	12,350	10,550	11,300	11,350	1,050
South Dakota	13,450	9,050	11,650	11,600	1,800
Alabama	13,700	9,650	11,900	11,950	1,800
Maine	13,100	9,600	11,950	11,800	1,150
North Dakota	17,500	11,500	15,050	14,950	2,450
Wyoming	22,800	18,400	20,800	20,750	2,000
Montana	13,100	9,500	12,550	12,350	600
Mississippi	13,150	12,400	13,000	13,000	150
West Virginia	15,550	9,500	11,450	11,450	4,100
Top 15 States by % in First Generation	16,350	14,600	14,450	14,950	1,950
United States	15,950	13,800	13,400	13,850	2,550

NOTE: See text for construction of expenditures by state and generation. Because the difference between first and third-plus generation expenditure amounts is taken from the unrounded estimates and then rounded to the nearest \$50, the value may differ from the first generation column less the third-plus due to rounding in some cases. States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2). Caution should be exercised when examining the state-level estimates, especially those near the bottom of the table, because of small first (and second) generation populations for many states.

SOURCE: Panel estimates implemented Current Population Survey Annual Social and Economic Supplement for 2011-2013.

By generation, for the United States as a whole, annualized state and local government expenditures for the 2011-2013 period were considerably higher for first generation independent person units (\$15,950) than for second generation (\$13,800) or third-plus generation (\$13,400) independent person units. This was due to greater program participation (including public education). For the 15 states with the largest share of their independent population in the first generation, average expenditures for each immigrant generation were higher than the national averages by generation, but the gap *between* the generations was smaller (with average expenditures of \$16,350 for the first generation versus \$14,600 for the second and \$14,450 for the third-plus generation).

9.5 AGGREGATE FISCAL EFFECTS BY STATE

Total state and local government revenues averaged \$3.3 trillion per year in 2011-2013, while total state and local government expenditures averaged \$3.17 trillion, nearly balancing out. In theory, when one looks across the amount of revenues contributed by each generation and the expenditures received by each generation, and if balanced budget rules held, the net total across generations in each state should be zero. In fact, because certain state and local funds run surpluses and deficits, no state actually has state and local revenues precisely equal to state and local expenditures. California, the state with the largest population and the largest number and percentage of first generation independent person immigrants, had the largest positive net difference in dollars between total average annual state and local revenue and expenditure flows in 2011-2013 (\$22.9 billion) out of all 50 states and the District of Columbia. With spending exceeding revenues by \$2.4 billion, Pennsylvania had the largest negative net difference in dollars. The District of Columbia had the largest negative net difference as a percentage of state and local revenues (-6%), while North Dakota had the largest positive net difference (+23%).

We exclude the institutional portion of Medicaid spending (\$72 billion) from our estimates due to missing this population in our data, which widens the gap between aggregate U.S. revenues and expenditures in 2011-2013. After we take out institutional Medicaid spending, all but two states have positive budget balances (compared with seven negative-balance states when all expenditure flows are included).

Nationwide, the fact that the state and local government revenues we allocated exceeded expenditures by \$197 billion, after excluding institutional Medicaid spending, means that an average net difference of \$900 was assigned per independent person unit. By state, average net differences resulting from fiscal imbalances that were assigned at the unit level varied from -\$850 in the District of Columbia to \$6,450 in Alaska (see the “All”

column of Table 9-6). With net differences in revenues and expenditures ranging from positive to negative across states, when comparing net differences per independent person unit for different immigrant generations, it can be difficult to disentangle how much variation is from across-generation cost differences versus net cost differences among states.

Our analysis is for a specific time period for which state fiscal balances may not be typical. For example, the difference between state and local total revenues and total expenditures was positive in 2011 (\$281 billion, or \$353 billion after excluding Medicaid institutional spending). In 2012, this

TABLE 9-6 Net Difference between State and Local Revenues and Expenditures per Independent Person Unit (rounded to nearest \$50), by Immigrant Generation by State, 2011-2013

State	Immigrant Generation			All	Difference: First less Third+
	First	Second	Third+		
California	-\$2,050	\$1,550	\$3,100	\$1,050	-\$5,150
New Jersey	-1,850	2,300	700	200	-2,550
New York	-1,500	4,400	2,600	1,700	-4,050
Nevada	-1,300	1,000	1,950	1,050	-3,250
Florida	-350	1,200	1,350	950	-1,700
Texas	-2,050	-400	1,400	450	-3,450
Hawaii	-700	1,250	1,700	1,150	-2,400
Maryland	-100	2,050	550	550	-650
Arizona	-1,350	250	1,750	1,000	-3,100
District of Columbia	-2,800	7,100	-1,300	-850	-1,500
Massachusetts	-2,250	2,300	500	250	-2,750
Illinois	-2,700	550	1,000	350	-3,650
Washington	-3,050	600	750	100	-3,850
Connecticut	-600	3,550	1,300	1,250	-1,900
Rhode Island	-1,500	2,100	1,600	1,150	-3,100
Virginia	-600	1,300	800	650	-1,400
Delaware	-500	2,050	750	650	-1,250
Georgia	-1,250	650	800	550	-2,050
New Mexico	-2,550	250	1,000	550	-3,550
Oregon	-1,900	2,250	1,650	1,300	-3,550
Colorado	-2,950	1,050	900	500	-3,850
Alaska	3,950	5,800	6,850	6,450	-2,900
Nebraska	-2,200	1,500	1,900	1,450	-4,100
Idaho	-1,050	600	1,500	1,200	-2,550
North Carolina	-650	1,700	1,500	1,300	-2,150
Utah	-1,950	-450	500	250	-2,450
Michigan	-250	2,550	800	800	-1,050

continued

TABLE 9-6 Continued

State	Immigrant Generation			All	Difference: First less Third+
	First	Second	Third+		
Minnesota	-5,100	3,250	2,200	1,600	-7,250
Kansas	-2,450	1,150	1,150	850	-3,600
Pennsylvania	-1,250	1,750	250	250	-1,500
Iowa	-1,000	2,550	1,550	1,450	-2,600
New Hampshire	-550	1,750	550	600	-1,100
Wisconsin	-3,650	1,550	1,550	1,250	-5,250
Tennessee	-700	1,250	750	700	-1,450
Arkansas	-1,200	1,650	1,450	1,300	-2,650
Kentucky	-950	2,400	100	100	-1,050
South Carolina	150	2,400	550	600	-450
Oklahoma	200	1,950	1,500	1,450	-1,300
Vermont	250	3,400	1,000	1,150	-750
Indiana	150	1,750	1,050	1,050	-900
Ohio	450	3,650	1,500	1,550	-1,050
Louisiana	-400	-1,100	-250	-250	-200
Missouri	-150	2,250	1,200	1,200	-1,400
South Dakota	-550	1,500	1,850	1,750	-2,400
Alabama	-1,100	2,500	550	550	-1,650
Maine	-350	2,450	750	850	-1,100
North Dakota	3,250	5,500	5,400	5,350	-2,200
Wyoming	1,300	3,550	3,450	3,400	-2,150
Montana	1,850	1,250	950	950	950
Mississippi	1,300	2,600	1,350	1,400	-50
West Virginia	550	3,850	1,500	1,550	-950
Top 15 States by % in First Generation	-1,700	1,650	1,650	800	-3,400
United States	-1,600	1,700	1,300	900	-2,900

NOTES: See text for construction of revenues and expenditures by state and generation. Because the difference between first and third-plus generation net difference (revenue less expenditure) amounts is taken from the unrounded estimates and then rounded to the nearest \$50, the value may differ from the first generation column less the third-plus due to rounding in some cases. Similarly, because differences between revenues and expenditures are calculated on unrounded numbers and then the difference is rounded, these values may differ from calculated differences between Tables 9-4 and 9-5. States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2). Caution should be taken when examining the state-level estimates, especially those near the bottom of the table, because of small first (and second) generation populations for many states.

SOURCE: Panel estimates implemented on the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

switched to a negative difference, largely due to a very significant decline in insurance trust revenue (government employee retirement revenue fell from \$554.3 billion to \$169.9 billion) between the 2 years, reflecting changes due to delayed payments during the recession. In 2013, the net fiscal state balance became positive again. To smooth out these cycles, we averaged revenues and expenditures for 2011-2013. If 2011 rather than 2011-2013 state and local revenue and expenditure amounts were assigned to our sample, the average net difference per independent person unit would become even more positive, going from \$900 to approximately \$1,600 per independent person unit. If, instead, we had used 2012 amounts, the individual unit average net difference would turn negative (–\$200). If we had eliminated all insurance trust contributions and payments along with excluding the institutional portion of Medicaid spending, averaged over the 2011-2013 period, 11 states would be estimated to have higher expenditures than revenues, while, on average per independent person unit, there would be \$200 more in revenues raised than spent in the country as a whole.

9.6 NET EFFECTS OF IMMIGRATION ON STATE AND LOCAL BUDGETS

Estimated Differences in Net Fiscal Effects per Independent Person Unit by Generation

Table 9-6 shows the estimated net differences between state and local revenues and expenditures, by generation per independent person unit. Our estimates are derived using the replicate weights in the 2011-2013 CPS ASEC, whereby calculations of net differences are run many times in order to estimate an appropriate standard error and coefficient of variation, or CV (the standard error as a percentage of the estimate). We used replicate weights and show CVs in this part of the analysis (see Table 9-18 in the Technical Annex to this chapter) because we have reached the primary question of interest: How much do first and second generation units cost their states and localities? Also, the net differences are the result of balancing revenue and expenditure assignments, thereby magnifying the errors in each.¹⁵

As seen in Table 9-6, for the United States as a whole, **first generation independent person units (which include first and second generation children assigned to independent first generation persons) cost the states on net about \$1,600 each. In contrast, second generation independent**

¹⁵Not only does the CPS ASEC have sampling error, which is large for many states even pooled over 3 years, but also both the CPS ASEC and the COG have other sources of error, such as response error, imputation error, and the like.

person units (which include second and third generation children assigned to independent second generation persons) contribute on net to state and local budgets about \$1,700 each, and third-plus generation independent person units (which include their children) contribute on net to state and local budgets about \$1,300 each.¹⁶ These estimates of the fiscal impact imply that the total annual aggregate impact of the first generation and their dependents, averaged across 2011-2013, is a cost of \$57.4 billion, while the second and third-plus generation individuals (and their children) create benefits of \$30.5 billion and \$223.8 billion, respectively. Note that the surplus revenues raised amount to \$197 billion, which equals the surplus across all 50 states.¹⁷ This overall pattern is largely driven by the larger education costs for first generation independent person units, which include more children on average than units of the other two generations. By the second generation, immigrants are a net win for the states as a whole, given that they have fewer children on average than first generation units and are contributing in revenues more than they cost in expenditures.¹⁸ State by state, however, there are wide variations in net gains or losses, although the panel is unable to make claims as precisely as we would like for many of our state and local estimates because of the large sampling errors.

The demographic differences between the first, second, and third-plus generation independent person units serve as the drivers of the differences

¹⁶The finding here, that the first generation generates higher net fiscal costs at the state and local level, is consistent with that from the parallel analysis in Chapter 8 (Table 8-1). The numbers for the second and third-plus generations here and for the second and third-plus generation in Chapter 8 do not map exactly, due to slight methodological differences. The Chapter 8 analysis is for 2013, while the analysis here averages over the 2011-2013 period. More importantly, the two analyses treat grant-in-aid spending from the federal government (which pays for programs like Medicaid and some welfare programs) differently. Chapter 9 includes these revenue transfers to states in state revenues (with the exception of the institutional portion of Medicaid spending), while Chapter 8 does not. Also, in Chapter 8, the funding raised by the federal government to pay for the grants-in-aid is treated as either federal taxes or federal deficit spending, which leads to both lower spending and lower revenue estimates at the state and local level. Finally, in the Chapter 8 analysis, there is no balanced budget assumption—the aggregates are as reported in the National Income and Product Accounts. If grants-in-aid are taken off both sides of the state/local ledger, the net fiscal balance becomes more negative.

¹⁷The \$197 billion aggregate surplus here is calculated by totaling the unrounded estimates of net fiscal effects by state multiplied by the average number of independent persons in each year (see Table 9-13 in the Technical Annex to this chapter); this will differ somewhat from the total if the rounded estimates in Table 9-6 are used instead.

¹⁸These results are driven by the fact that the costs of dependents are assigned to their parents. If, instead, taxes paid and services received were assessed at the individual level, with dependent children considered in their own right, the relative costs would shift across groups. Because half of all second generation individuals are dependents, allocating all costs and benefits to each person (rather than wrapping up dependent children to independents) would cause the average net fiscal cost for first generation individuals to decline and reverse sign in many states, while the costs for second generation individuals would increase.

in revenue and expenditure flows across them. First generation independent person units generate higher costs due to the presence of more dependent children, on average, in those units. Much of this comes from the assignment of K-12 education spending, which accounts for 16 percent of all state and local spending. If we remove all K-12 education expenditures from our estimates, rather than assigning school spending to the students themselves (which in most cases means wrapping it up to the independent parents/individuals who support them), the spending difference between the first and third-plus generations decreases from \$2,900 to \$1,950, a 32 percent decrease.

Beyond education spending, the 45 percent of spending flows that are classified as “other” (hospitals, health, veterans’ services, etc.—see Table 9-12 in the Technical Annex to this chapter) is allocated to all people, both dependent and independent, evenly. Thus, first generation independent individuals on average have higher total expenditure amounts from these flows allocated to all because they have more flows wrapped up from more dependent children. However, if a portion of these spending costs were treated as fixed expenditure flows, irrespective of population numbers (analogous to the treatment of national defense in some scenarios in Chapter 8), the addition of first generation independent person units to the population base would reduce these average costs for the second and third-plus generation units; the dollar amounts would be spread across a larger population (which is what we did in our baseline estimates), but the marginal cost to the state would not change. Additionally, although it is not evident in cross-sectional estimates, the majority of the dependent children of first generation immigrants who are second generation and whose costs are assigned to their parents will go on to become net contributors once they reach working ages.

Although per unit spending on the second generation independent person units is slightly more than it is on the third-plus generation units, the per unit net *difference* between revenues and expenditures is the most *positive* for second generation independent person units. With a positive net difference of \$1,700, second generation independent person units contribute \$400 more on average than third-plus generation units. This corroborates findings reported in Chapter 8. However, this is largely due to the distribution of second generation independent person units across states, rather than the relative contribution of second versus third-plus generation units within a state. The third-plus generation independent person units contribute less in taxes and other revenue flows on average than the second generation, despite having the highest average income of all three generations. Looking at specific tax flows, the second generation units contribute the most in both state income tax and general sales tax on average, followed by the third-plus generation units and then the first

generation independent person units, reflecting the lower average AGI of first generation independent persons in the sample. However, this is driven by differences in tax structures in place across different states, rather than differences in the characteristics of the independent person units.

Note that the average U.S. spending and revenues raised per independent person unit hide differences across states. Thus, because many of the states with small numbers of first generation independent person units also have lower spending and taxes, the spending per third-plus generation independent person unit is lower for these states than for the states where immigrants often settle. Focusing on the 14 states and the District of Columbia with the highest share of first generation independent person units, one can see differences across generations as well. Moreover, as noted above, these differences can vary from year to year depending on whether a state is running a surplus or deficit. While first generation independent person units have more spent on them than revenues contributed in these 15 jurisdictions, this amount varies from a net cost of \$100 in Maryland to a net cost of \$3,050 in Washington State. For the second generation independent person units, while on average across states more revenues are raised than money spent on them, the differences vary from a net cost of about \$400 per second generation independent person unit in Texas to a net contribution of \$7,100 per such unit to the District of Columbia's budget. Similarly, whether an average third-plus generation independent person unit costs or contributes to a state (and local) budget varies from a net cost of \$1,300 in the District of Columbia to a net contribution of \$3,100 in California. These differences are largely driven both by different demographic and economic characteristics of individuals and by fiscal choices made by state and local governments.

Estimated Differences in Net Fiscal Effects at the Household Level

If, instead of independent person units, one were to use self-identified households, very similar patterns result across generations (as defined by the generation of the designated head of household), albeit the estimates are often about double the estimates for independent person units. That is, one finds that first generation households in general have higher state and local net costs or smaller contributions than do the second or third-plus generation households (see Table 9-7). Again, this pattern varies across states, with second generation households often, but not always, contributing more to a state and local surplus than either first or third-plus generation households. The estimated amounts are higher because, typically, average household size includes more than one independent person. Differences in household size and composition will affect the relative size of net contribution or burden. Table 9-19 in the Technical Annex to this chapter presents

TABLE 9-7 Net Difference between State and Local Revenues and Expenditures per Household Unit (rounded to nearest \$50), by Immigrant Generation by State, 2011-2013

State	Immigrant Generation (household units)			All
	First	Second	Third+	
California	-\$4,400	\$2,500	\$5,750	\$2,150
New Jersey	-4,400	4,200	1,500	400
New York	-2,750	7,600	4,600	3,100
Nevada	-2,500	1,700	3,400	1,950
Florida	-800	1,950	2,400	1,700
Texas	-4,550	-300	2,500	900
Hawaii	-2,300	3,150	3,600	2,400
Maryland	-450	4,600	1,000	1,000
Arizona	-2,800	-150	3,250	1,800
District of Columbia	-5,650	11,100	-1,950	-1,400
Massachusetts	-4,200	4,400	750	450
Illinois	-5,350	750	1,650	600
Washington	-6,600	800	1,450	200
Connecticut	-1,050	5,200	2,550	2,300
Rhode Island	-3,050	3,950	2,850	2,100
Virginia	-1,650	3,900	1,400	1,200
Delaware	-700	2,600	1,350	1,200
Georgia	-2,450	300	1,450	1,000
New Mexico	-5,050	-700	1,950	1,000
Oregon	-3,900	4,500	3,000	2,400
Colorado	-6,200	2,050	1,650	900
Alaska	7,350	10,300	12,300	11,700
Nebraska	-4,450	2,750	3,300	2,600
Idaho	-2,000	700	2,800	2,250
North Carolina	-1,650	2,000	2,700	2,300
Utah	-4,800	-1,150	1,050	450
Michigan	-650	4,650	1,450	1,450
Minnesota	-10,000	4,550	3,900	2,900
Kansas	-5,050	2,200	2,000	1,550
Pennsylvania	-2,150	2,950	450	450
Iowa	-2,250	2,100	2,850	2,550
New Hampshire	-1,000	2,050	1,150	1,100
Wisconsin	-8,300	2,450	2,800	2,250
Tennessee	-300	1,650	1,300	1,250
Arkansas	-2,150	5,000	2,550	2,400
Kentucky	-1,700	3,500	150	150
South Carolina	-100	1,000	1,100	1,050
Oklahoma	500	3,150	2,650	2,550

continued

TABLE 9-7 Continued

State	Immigrant Generation (household units)			All
	First	Second	Third+	
Vermont	-850	5,000	1,950	2,100
Indiana	200	4,700	1,800	1,850
Ohio	850	6,600	2,600	2,750
Louisiana	-850	1,250	-500	-450
Missouri	50	3,150	2,100	2,050
South Dakota	-2,300	3,400	3,200	3,050
Alabama	-1,300	5,450	1,000	1,000
Maine	-500	3,400	1,400	1,500
North Dakota	4,900	8,500	9,350	9,200
Wyoming	3,700	6,450	6,000	5,950
Montana	1,950	2,100	1,650	1,650
Mississippi	2,350	8,000	2,400	2,500
West Virginia	2,700	7,600	2,600	2,700
Top 15 States by % in First Generation	-3,600	2,850	3,050	1,550
United States	-3,300	3,000	2,400	1,600

NOTE: See text for construction of revenues and expenditures by state and generation and for definitions of household immigrant generation. States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2). Caution should be taken when examining the state-level estimates, especially those near the bottom of the table, because of small first (and second) generation populations for many states.

SOURCE: Panel estimates implemented on the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

information on average household size by generation (of head of household) by state. Table 9-20 in the Technical Annex to this chapter provides annualized weighted sample counts of first, second, and third-plus generation households by state in the pooled CPS ASEC 2011-2013 data.¹⁹

An advantage of using households as the unit of analysis is that assumptions do not have to be made about allocation of income, dependents, or receipt of social services among independent persons in the household—they can be assigned to the whole household. However, a single generation status must be assigned to the entire household, even for cases in which different independent persons within the household are of different genera-

¹⁹As noted in Table 9-20, the full 2011-2013 household sample does not account for overlap among sample cases due to the rotation group design of the survey.

tions. Thus, for the estimates presented here, the panel assigned generation status at the household level using the generational status self-reported by the householder. For mixed cases, if the nonimmigrant is more likely to be the householder (say, because of more facility with English), then our estimates will be muddled. While not the standard procedure, which would use either all individuals, all households, or all families, presenting results according to independent person units (and assigning dependent children to their parents to form a unit) provides a cleaner comparison, as it avoids inconsistencies caused by differences in household size or composition.

Decomposing Cross-Generation Differences

To highlight the relationship between the demographic and economic differences across generations of independent person units and the variations in state and local revenues and expenditures across these generations, the panel examined how differences in characteristics like age structure and education levels of the first, second, and third-plus generations impact the average net contribution (or burden) of independent person units of each generation. Table 9-8 shows results from multiple regression analyses that follow closely those conducted in Chapter 8 and reported in Table 8-3, in which net fiscal impact at the state and local level is regressed on generation as defined by independent person units.²⁰ The third-plus generation of independent person units is used as the reference category so that coefficients can be reported on indicators for the first and second generations. We present six models, with each subsequent model adding more control variables to account for cross-generational differences. For brevity, we only report the regression coefficients for immigrant generation, which represent, in dollars, the net fiscal impacts associated with being a first or second generation independent person unit, compared to third-plus generation independent person units.

In almost all cases, the regression coefficients for immigration generation are statistically significant, with first generation independent person units having a net fiscal cost relative to the third-plus generation, while the opposite is true for second generation independent person units. Note that, because time since arrival is not accounted for, the net fiscal burden

²⁰Some of the methodological differences between Chapter 8 and Chapter 9 in how net fiscal impact estimates at the state and local level are generated are detailed in footnote 16. In addition, the sample for the estimates and regression analyses here in Chapter 9 differs from the sample used in Chapter 8. The Chapter 8 regression analysis uses observations of independent individuals from a pooled CPS 1994-2013 sample that has adjusted population weights to represent the total residential population (including institutionalized residents). Chapter 9 uses observations of independent individuals from a pooled CPS 2011-2013 sample that is representative of the noninstitutionalized population.

TABLE 9-8 Regression Analysis of Net Fiscal Impact at the State and Local Level per Independent Person Unit, by Immigrant Generation, 2011-2013

	OLS regression	With state fixed effects
Model 1 – Controls: none; N = 416,284		
1st generation (+ dependents)	-2,913 ***	-3,183 ***
2nd generation (+ dependents)	384 ***	150 *
3rd+ gen (+ dependents) ref. group	—	—
R ²	0.009	0.012
Model 2 – Controls: age group, year, sex; N = 416,284		
1st generation (+ dependents)	-2,429 ***	-2,682 ***
2nd generation (+ dependents)	762 ***	547 ***
3rd+ gen (+ dependents) ref. group	—	—
R ²	0.056	0.059
Model 3 – Controls: age group, year, sex, education; N = 416,284		
1st generation (+ dependents)	-1,478 ***	-1,591 ***
2nd generation (+ dependents)	422 ***	327 ***
3rd+ gen (+ dependents) ref. group	—	—
R ²	0.128	0.132
Model 4 – Controls: age group, year, sex, education, race/ethnicity; N = 416,284		
1st generation (+ dependents)	-1,166 ***	-1,190 ***
2nd generation (+ dependents)	565 ***	537 ***
3rd+ gen (+ dependents) ref. group	—	—
R ²	0.135	0.140

of a first generation independent person unit is not the same as that for a *new* first-generation immigrant (as just 14% of our first generation sample arrived in the U.S. after 2006). On average, recently arrived first generation independent person units (since 2006) have small net fiscal burdens relative to first generation units that have been in the United States longer because the new first generation immigrants heading the unit tend to be younger, have more education, and have fewer dependent children.

Following the same order as in Chapter 8, we add control variables that typically explain (statistically account for) demographic and economic differences; an additional model directly controls for income so that the importance of that factor can be discussed. Note that the order in which the control variables are added matters, so decreases in the difference from the comparison group (third-plus generation independent person units) with each additional variable can be seen as the additional marginal effect of including that variable. For example, the effects we find on age in part

TABLE 9-8 Continued

Model 5 – Controls: age group, year, sex, education, race/ethnicity, number of dependents; N = 416,284		
1st generation (+ dependents)	–706 ***	–660 ***
2nd generation (+ dependents)	258 ***	291 ***
3rd+ gen (+ dependents) ref. group	—	—
R ²	0.407	0.412
Model 6 – Controls: age group, year, sex, education, race/ethnicity, number of dependents, income; N = 416,284		
1st generation (+ dependents)	–421 ***	–243 ***
2nd generation (+ dependents)	19	177 ***
3rd+ gen (+ dependents) ref. group	—	—
R ²	0.553	0.559

NOTES: Each column presents coefficients and significance levels from a separate ordinary least squares (OLS) regression of net fiscal impact at the state and local level (dependent variable) on indicators for immigrant status (*x* variables) and indicators for the other characteristics listed. Coefficients are the marginal effects in terms of dollars per independent person unit that are associated with the given immigrant status, relative to third-plus generation independent person units. A positive number is an improvement or savings in net fiscal impact; a negative number is a reduction or deficit. Thus a coefficient on a “1st generation” independent person unit equal to +1,000 implies that, compared to a third-plus generation unit, a first generation unit has a more positive net fiscal impact by \$1,000 at the state and local level. Age groups are measured in 5-year intervals. Asterisks denote statistical significance at the 1 percent (***), 5 percent (**), or 10 percent (*) level.

SOURCE: Panel estimates implemented on the Current Population Survey Annual Social and Economic Supplement for 2011–2013.

are related to the likelihood of having different numbers of dependents at different points in an independent person’s life cycle.

Model 1, which does not include any control variables, reports the difference in net fiscal impacts of the first and second generation independent person units relative to the third-plus generation units. Controlling for no other factors, a first generation independent person unit on average costs state and local governments \$2,913 more than an additional third-plus generation independent person unit, while an additional second generation independent person unit *contributes* \$384 more than an additional third-plus generation unit. If the regression analysis controls for average state spending and taxes by introducing state fixed effects, as is shown in the right-hand column of Table 9-8, first and second generation independent person units are on average about \$200 more costly, compared to a third-plus generation independent person unit, than with no state fixed effects (middle column of Table 9-8, labeled “OLS Regression”). Table 9-8

includes regression model runs with and without state fixed effects, but the discussion below will focus on the coefficients for the model runs without the state fixed effects.

Model 2 adds a set of basic controls for age of the independent person, calendar year, and gender. As discussed in Section 9.3, the first generation independent individuals are on average the youngest of the three generations. With more independent persons concentrated in child-raising ages, the first generation units have, on average, more dependent children and consequently have higher state and local expenditures on education. Because we are limiting our estimates to a 3-year period that is at a similar point in the economic cycle, the year controls make little difference and the coefficients on calendar year are not significant in this model (although they do have small but statistically significant effects in later models).²¹ Similarly, the gender makeup of each generation does not affect the relative fiscal impact. While male independent person units appear to contribute more than females in this model, the difference in income between the two genders is driving this and there is no significant difference between men and women in our later model that controls for income.²² Thus, after controlling for age group (as well as year and gender), the fiscal impact of the first generation units (–\$2,429) becomes less negative relative to the third-plus generation independent person units by about \$500. The second generation units have the highest share of elderly independent persons in them (age 65 and older), relative to the units of the other two generations, leading to additional public costs. When this is controlled for under Model 2, the second generation’s fiscal impact (+\$762) becomes more positive, relative to the third-plus generation by about \$400.

Because the independent persons in the first generation units have less education on average than those in second and third-plus generation units, controlling for education (Model 3) shrinks the negative net fiscal impact for first generation independent person units to –\$1,478 (a decrease of about 40 percent from the Model 2 net fiscal impact). Conversely, controlling for education lowers the positive net fiscal impact for second generation units due to the higher educational attainment of second generation independent persons compared to third-plus generation independent persons.

Model 4 incorporates controls for race and ethnicity in addition to the controls already included in Model 3. As noted in the discussion of the Chapter 8 regression analyses, race and ethnicity may proxy for differences

²¹The coefficients on calendar years 2012 and 2013 (relative to the comparison group for calendar year 2011) in Model 2 are –34 and –72, respectively, and are not statistically significant.

²²The coefficient on male (relative to the female comparison group) in Model 2 is 1,689 and is statistically significant at the 1 percent level. However, when we introduce a control for income in our final model the coefficient on male is –36 and no longer statistically significant.

in treatment and opportunity, affecting earnings opportunities and possibly labor force participation. Under Model 4, the first-to-third-plus generation gap in net fiscal impact closes further (to just $-\$1,166$) and the independent person units in the second generation show a small increase (going from $+\$422$ to $+\$565$) in their net fiscal impact relative to units in the third-plus generation.

Controlling for the number of dependent children (Model 5) has a dramatic effect on the relative costs of an average unit in the first and second generations, relative to an average third-plus generation unit. Because first generation independent person units have more dependent children on average compared with third-plus generation units (0.52 versus 0.36), they incur higher public education costs when education expenditures are assigned fully to school-aged children rather than a portion being considered a public good. Controlling for the number of dependents decreases the negative net fiscal impact of a unit in the first generation relative to third-plus generation units by close to $\$500$ (going from $-\$1,166$ to $-\$706$). In contrast, due to having fewer dependent children as compared to third-plus generation independent individuals, the fiscal benefit of second generation units relative to third-plus generation independent person units declines by about half (to $+\$258$), compared to the fiscal benefit before controlling for dependents (Model 4). The coefficient on number of dependents indicates that, for each additional dependent child, an independent person unit's net fiscal impact is decreased by almost $\$9,750$.²³

Finally, Model 6 in Table 9-8 shows how the net impact changes when AGI is controlled for in the regression. With average incomes for first generation independent person units being the lowest of the three generations (see Table 9-16 in the Technical Annex to this chapter), they contribute less to state and local tax revenues and are more likely to receive government benefits. Adding income to the control variables already included in Model 5 further diminishes the difference in net fiscal impact between independent person units in the first and third-plus generations to just $-\$421$, and the difference between independent person units in the second and third-plus generations is not statistically significant. The Model 6 coefficient on AGI indicates that for each additional $\$100$ of income, a unit's net fiscal impact is made more positive by about $\$11$.²⁴ Thus, after adding controls for age group, year, sex, education, race and ethnicity, number of dependents, and income, the average negative net fiscal impact of the first generation units relative to independent person units in the third-plus generation is

²³The coefficient on the number of dependents in Model 5 is $-9,739$ and is significant at the 1 percent level.

²⁴The coefficient on AGI in Model 6 is 0.107 and is statistically significant at the 1 percent level.

significantly diminished. Demographic and economic characteristics of first generation independent person units account for close to $-\$2,500$ of the original $-\$2,931$ gap relative to third-plus generation units. These characteristics also account for all of the positive contribution of second generation independent person units relative to the third-plus generation units.

When the regression analysis sample is limited to independent person units living in the 14 states and the District of Columbia in which at least one-quarter of all independent persons belong to the first or second generation, the results for the first generation are similar to those in the sample that includes all states. Demographic and economic characteristics of first generation independent person units in these jurisdictions account for close to $\$3,100$ of their original $\$3,383$ net fiscal cost relative to a unit in the third-plus generation. For second generation units in these jurisdictions, the initial difference in fiscal impact compared with third-plus generation independent person units is statistically insignificant, but after controlling for demographic and economic characteristics, a second generation unit would contribute $\$150$ more than an average third-plus generation unit.

9.7 ALTERNATIVE TREATMENTS OF EDUCATION COSTS

As noted in Section 9.6, much of the differential expenditure burden for first generation independent person units comes from the cost of educating the dependent children in the unit. However, these children will grow up to be higher contributing second generation adults. In our baseline estimates, the panel assigned the cost of education to families that include children attending school. This means K-12 costs are assigned based on the presence of school-age children and public higher education payments are assigned to independent persons who are either attending, or have a dependent attending, an institution of higher education. This allocation ignores the future public benefit of education to those with and without children and the benefit to society of a better educated population. On average, K-12 spending per student is almost $\$9,000$ in the United States as a whole but varies from $\$5,400$ per pupil in Utah and $\$5,550$ in Arizona to $\$26,950$ in the District of Columbia.

To examine the possible public benefit spillovers, the panel re-ran the baseline estimates with various alternative assumptions about who receives the benefit (or would be responsible for the cost) of K-12 and public higher education. We first assigned half of the cost of K-12 education accruing to state and local governments to everyone within the state (including all independent and dependent persons) on a per capita basis. The remaining half was assigned to students as in the baseline scenario. This approach recognizes a level of public value to others of school spending. Table 9-9 shows how these differences in assigning education expenses affect estimates of

the relative costs for the United States as a whole and for specific states. Allocating half of K-12 expenses per capita in this manner, the net fiscal burden of first generation independent units declines by about \$250 per independent unit (a change in net fiscal impact from $-\$1,600$ to $-\$1,350$). The costs borne by second generation independent person units increase by about \$150 per unit, reflecting the lower number of dependents for second generation independent units overall; costs remain about the same for the third-plus generation units under this alternative scenario.

If we instead allocate half of the K-12 expenditures to just the independent persons, rather than to all persons, and the remaining half to students, the net fiscal impact of first generation units becomes $-\$1,250$ and the second and third-plus generations have small increases in the costs they bear. This reduces the difference in net costs between first and third-plus generation independent person units from \$2,900 to \$2,500. Row 4 of Table 9-9 shows the results of assigning half of state and local spending on both K-12 and higher education to just the independent persons. Including higher education spending in this assignment approach has little effect on relative revenues and expenditures as reflected in the U.S. averages for independent person units in the first and third-plus generations.

The lower three panels of Table 9-9 illustrate, for specific states, how independent person units in the generations fare when education expenses are allocated differently. Most of the changes are small, but when we allocated half of the K-12 education benefits in California to independent persons, the net cost of first generation units declined by \$300, with a similar decline in the net benefit from units in the second and third-plus generations. Interestingly, second generation Californian independent person units have increased fiscal contributions to the state under the scenario in which half of K-12 and higher education costs are attributed to all independent persons. This reflects higher-than-average usage of higher education by second generation Californians. Similarly, how educational expenses are allocated in New Jersey affects the relative costs and benefits between units in the first and second generations, with the relative benefits for third-plus generation units staying fairly constant.

9.8 MARGINAL VERSUS AVERAGE FIXED COSTS

The New Americans (National Research Council, 1997) included a theoretical discussion of the relative cost of a new immigrant family in terms of its marginal cost to governments. However, most of that report's estimates of household level state and local finances were based on allocating revenues and expenditures across existing immigrant and nonimmigrant households on an average cost basis; the same was true for that report's treatment of federal spending (with the exception of national defense).

TABLE 9-9 Net Difference between State and Local Revenues and Expenditures per Independent Person Unit with Alternative Assignment of Education Expenditures (rounded to nearest \$50), by Immigrant Generation, 2011-2013

State	Immigrant Generation		
	First	Second	Third+
All 51 States			
Education expenditures to students	-\$1,600	\$1,700	\$1,300
Half of K-12 expenditures to students, half to all as public good	-1,350	1,550	1,300
Half of K-12 expenditures to students, half to all independents as public good	-1,250	1,450	1,250
Half of K-12 and higher education expenditures to students, half to all independents as public good	-1,250	1,650	1,250
Top 15 States by % in First Generation			
Education expenditures to students	-\$1,700	\$1,650	\$1,650
Half of K-12 expenditures to students, half to all as public good	-1,500	1,450	1,600
Half of K-12 expenditures to students, half to all independents as public good	-1,400	1,400	1,550
Half of K-12 and higher education expenditures to students, half to all independents as public good	-1,400	1,600	1,550
California			
Education expenditures to students	-\$2,050	\$1,550	\$3,100
Half of K-12 expenditures to students, half to all as public good	-1,850	1,450	2,950
Half of K-12 expenditures to students, half to all independents as public good	1,750	1,400	2,900
Half of K-12 and higher education expenditures to students, half to all independents as public good	1,850	1,700	2,900
Florida			
Education expenditures to students	-\$350	\$1,200	\$1,350
Half of K-12 expenditures to students, half to all as public good	-300	1,150	1,300
Half of K-12 expenditures to students, half to all independents as public good	-250	1,100	1,300
Half of K-12 and higher education expenditures to students, half to all independents as public good	-200	1,250	1,250
New Jersey			
Education expenditures to students	-\$1,850	\$2,300	\$700
Half of K-12 expenditures to students, half to all as public good	-1,550	1,800	700
Half of K-12 expenditures to students, half to all independents as public good	-1,450	1,600	700

TABLE 9-9 Continued

State	Immigrant Generation		
	First	Second	Third+
Half of K-12 and higher education expenditures to students, half to all independents as public good	-1,550	1,750	700

NOTE: See text for construction of revenues and expenditures by state and generation.
SOURCE: Panel estimates implemented on the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

The evidence on the public versus private nature of government-provided services is mixed. Whereas total public spending no doubt increases with the size of the population, some categories of spending are likely to be unaffected, at least for a small increase in immigrant population and in the short run.

For the analyses in this chapter, about half of all spending (and revenues) is allocated based on personal or family attributes. But for many spending categories such as public safety, hospitals, and libraries, the costs have been allocated across all persons (both independent and dependent). Similarly, some revenue sources—such as transfers from the federal government for roads and those from natural resource extraction, which would be the same even if there were more new immigrants—are allocated on a per capita basis. While the panel did not specify which particular expenditures are public goods, it is important to highlight that some of these fixed costs are not higher due to the presence of immigrants.²⁵ The amounts of these fixed costs assigned to second and third-plus generation persons are lower than they otherwise would be due to the presence of more first generation arrivals as these costs become spread across a larger population. Not surprisingly, the implicit savings to nonimmigrants created by spreading fixed costs across a larger population varies with the population share in the first generation. For some communities, especially those facing declining populations, the influx of new immigrants can help lower their fixed costs. Indeed, for some costs, notably capital expenditures, bond repayments, and public pension obligations, the benefits of the government spending may have been received by earlier generations so having a larger population to pay off these debts benefits the existing population.

While not definitive, Table 9-10 highlights the difference in fiscal gaps that results from changing from an approach in which the fixed revenues

²⁵Fixed costs are the part of expenses that do not change with the addition of another individual.

and fixed costs for public goods are allocated to all individuals to a marginal allocation in which they are allocated only to second and third-plus generation independent persons and their dependents. When these fixed revenues and expenditures are assigned only to second and third-plus generation independents and their dependents on a per-person basis, instead of being assigned evenly to persons from all generations—thus assuming a marginal amount of zero to first generation independents and their dependents—the negative gap in net fiscal impact between first and third-plus generation independent person units decreases (in absolute terms) from $-\$2,900$ to $-\$450$ (Table 9-10). Thus, part of the higher fiscal costs for first generation independent units found in most of the analyses in this chapter are from these fixed costs. Under the assumption that first generation independent person units do not bear these costs, net positive fiscal impacts decrease or turn negative for second and third-plus generation independent person units—and these cost increases are highest in the states with more immigrants. For the 15 jurisdictions with the largest percentage of their populations in the first generation, the fiscal cost gap between first and third-plus generation independent person units closes from $-\$3,400$ to $-\$150$. In terms of overall fiscal impact, in California, for example, if these fixed costs (and revenues) were only allocated to second and third-plus generation independent persons and their dependents, the state's first generation independent person units change from generating a large net negative burden for the state to making a net positive contribution (going from generating a net cost of $\$2,050$ to a net fiscal benefit of $\$1,050$ —about $\$400$ less than that of third-plus generation independent units under a marginal allocation). As the share of the population that is composed of first generation independent person units declines, the impact of shifting from an average to a marginal allocation of these fixed revenues and expenditures diminishes.

Note that, if one were to only shift the fixed costs (and revenues) currently being borne by *new* immigrants who have arrived since 2006 (rather than all first generation individuals) to the remaining population (including other first generation individuals previously resident), the fixed costs for the rest of the population (both independent and dependent) would increase by about $\$50$ per independent person unit; and, in most states, recent immigrants would provide a net fiscal benefit. Again, the size of the shift in costs depends on the number and makeup of recent immigrant families. For example, the increase in net fiscal costs for nonrecent first generation independent person units in California would be about $\$100$. This alternative approach recognizes that, in many states, first generation independent persons are long-term residents of this country.

9.9 CONCLUSIONS

While previous chapters have highlighted the role immigrants play in affecting federal budgets and in their impact across state and local governments combined, it is important to recognize that **the burdens and contributions to fiscal balance sheets vary tremendously across states.**²⁶ Under the strictest set of assumptions, in which all costs of public education fall on the parents of those being educated and in which the cost of public goods are shared across the population equally, first generation independent person units are estimated to be the most costly relative to second and third-plus generation units. **For the 2011-2013 period, first generation independent person units incurred a net cost on average of \$1,600 per unit per year, compared to a net benefit of \$1,700 for second generation independent person units and \$1,300 for third-plus generation units.**

Most states follow the national pattern in which units in the second generation contribute the most per unit due to slightly higher incomes and fewer average dependents, but this is not the case in California. Additionally, among the 15 states with the most first and second generation independent individuals, California has the largest difference, \$5,150, between the fiscal shortfall of independent person units in the first generation (–\$2,050) and the fiscal benefit of units in the third-plus generation (\$3,100), while Maryland has the smallest difference at \$650. In Maryland, independent person units in the second generation generate an even higher level of per-unit fiscal benefit (\$2,050) than do units in the third-plus generation (\$550), while in California, the positive fiscal impact of units in the second generation, at \$1,550, falls short of that for units in the third-plus generation. Both states have progressive income taxes, and some of these differences appear to be related to Maryland having a larger percentage of first and second generation independent persons with more than a bachelor's degree. In many of the states with the fewest first generation independent person units, the difference in relative contribution between units in the first and third-plus generations is negligible, while units in the second generation contribute more to a state's bottom line.

The relative contribution or burden of any independent person unit is driven largely by that unit's demographic and economic characteristics—most notably the number of dependents in the unit and the unit's income levels. Because first generation units tend to have less income and more dependents than units in the second or third-plus generation, they are more costly to state and local governments. However, the children of

²⁶Fiscal impacts also vary widely at substate levels. Ideally, our analysis would estimate impacts at city and county levels, as insights about local jurisdictional responsibilities and benefits are of great interest to those governments. However, for the kinds of analyses done here, it is not possible to analyze at the local level with the available data, due to sample size limitations.

TABLE 9-10 Net Difference between State and Local Revenues and Expenditures per Independent Person Unit with a Marginal Allocation of Fixed Revenues and Expenditures^a (rounded to nearest \$50), by Immigrant Generation by State, 2011-2013

State	Immigrant Generation			All	Difference: First less Third+
	First	Second	Third+		
California	\$1,050	-\$150	\$1,450	\$1,050	-\$350
New Jersey	750	1,350	-300	200	1,000
New York	1,750	3,250	1,350	1,700	400
Nevada	1,100	200	1,200	1,050	-100
Florida	850	850	950	950	-100
Texas	-1,150	-650	1,150	450	-2,250
Hawaii	2,150	550	950	1,150	1,200
Maryland	2,100	1,550	50	550	2,050
Arizona	-450	0	1,550	1,000	-1,950
District of Columbia	2,200	6,150	-2,350	-850	4,550
Massachusetts	-100	1,850	50	250	-150
Illinois	300	-50	350	350	-50
Washington	-250	100	200	100	-450
Connecticut	2,800	2,950	600	1,250	2,200
Rhode Island	-950	2,000	1,500	1,150	-2,450
Virginia	1,200	1,000	500	650	700
Delaware	600	1,900	600	650	0
Georgia	-100	500	650	550	-750
New Mexico	-3,600	400	1,150	550	-4,700
Oregon	-1,200	2,150	1,600	1,300	-2,800
Colorado	-550	800	600	500	-1,200
Alaska	-5,500	7,000	7,950	6,450	-13,450
Nebraska	-950	1,350	1,750	1,450	-2,700
Idaho	-800	600	1,500	1,200	-2,300
North Carolina	50	1,650	1,450	1,300	-1,350
Utah	-700	-600	400	250	-1,100
Michigan	200	2,500	750	800	-550
Minnesota	-3,500	3,150	2,050	1,600	-5,550
Kansas	-900	1,050	1,050	850	-1,900
Pennsylvania	250	1,650	150	250	150
Iowa	-300	2,500	1,500	1,450	-1,850
New Hampshire	850	1,650	450	600	400
Wisconsin	-2,000	1,450	1,450	1,250	-3,450
Tennessee	-550	1,250	750	700	-1,300
Arkansas	-1,200	1,650	1,450	1,300	-2,650

continued

TABLE 9-10 Continued

State	Immigrant Generation			All	Difference: First less Third+
	First	Second	Third+		
Kentucky	-250	2,400	50	100	-300
South Carolina	450	2,400	550	600	-100
Oklahoma	-300	2,000	1,500	1,450	-1,800
Vermont	800	3,350	1,000	1,150	-150
Indiana	1,150	1,700	1,000	1,050	150
Ohio	1,400	3,600	1,450	1,550	-50
Louisiana	850	-1,150	-300	-250	1,150
Missouri	600	2,200	1,200	1,200	-550
South Dakota	850	1,450	1,800	1,750	-950
Alabama	-850	2,500	550	550	-1,400
Maine	700	2,400	700	850	0
North Dakota	850	5,600	5,500	5,350	-4,650
Wyoming	-800	3,650	3,500	3,400	-4,300
Montana	2,400	1,200	900	950	1,500
Mississippi	750	2,650	1,400	1,400	-650
West Virginia	-500	3,850	1,500	1,550	-2,000
Top 15 States by % in First Generation	700	700	900	800	-150
United States	500	1,000	950	900	-450

NOTES: Fixed revenue flows include other revenues and intergovernmental revenues (see Table 9-11 in the Technical Annex to this chapter for more information). Fixed expenditure flows include expenditures on other education and libraries, public welfare vendor payments to private vendors and administration expenditures, and other expenditures and capital outlays (see Table 9-12 in the Technical Annex to this chapter for more information). See text for more detail on the construction of revenues and expenditures by state and generation. Because the difference between first and third-plus generation net difference (revenue less expenditure) amounts is taken from the unrounded estimates and then rounded to the nearest \$50, the value may differ from the first generation column less the third-plus due to rounding in some cases. States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2). Caution should be taken when examining the state-level estimates, especially those near the bottom of the table, because of small first (and second) generation populations for many states.

“The marginal cost allocation of fixed expenditures in these estimates reassigns fixed revenues and expenditures to second and third-plus generation independents and their dependent children, rather than assigning them to all individuals (both independent and dependent) in all generations as in the average cost allocation in the baseline estimates (see Table 9-6).

SOURCE: Panel estimates implemented on the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

immigrants who are being educated grow up to become second generation adults, the group that, in general (but not always), contributes the most, when assessed in terms of independent person units, to a given state's fiscal health. In addition, the age distribution of independent persons also affects the relative contribution they make as a unit (with their dependents) to a state's budget. The share of the population that is elderly increases costs and decreases tax revenues to states. While not as costly as dependent children, the smaller share of first generation independent persons who are ages 65 and older offsets some of the costs for states, most notably in the form of Medicaid payments.

While the characteristics of individuals within an independent person unit affect the relative contribution or burden made by that unit, decisions made by the state and local governments about the level and structure of taxes and services provided also affect the relative burden or contribution of the unit. In places with higher spending on K-12 schools, for example, the relative cost of units in the first generation is higher than for units in the second or third-plus generation because the first generation units include more dependents.

The differences in contributions or burdens across generations and states also depend on whether fixed costs are allocated to all persons equally. The cost of an additional independent person unit in the first generation (or for that matter, an additional unit in any generation) is dampened to the extent that many of the costs that accrue to state and local governments are not sensitive to a small increase in the population. Using a marginal cost allocation, under which an additional immigrant is presumed not to add to the costs of administering the subset of state and local government services categorized as public goods, leads to more similar estimates of per-unit fiscal impacts across the three generations. The reason is that expenditures for the second and third-plus generation units increase, while those for first generation units decrease. In this respect, the cross-generation fiscal patterns are quite similar to those presented in Chapter 8 for the national level.

9.10 TECHNICAL ANNEX: SUPPLEMENTAL TABLES

This annex includes tables referenced in the text of this chapter but that are not included at the point of reference.

TABLE 9-11 Census of Governments (COG) State and Local Revenue Flow Types and Allocation Methods

Revenue Flow Type (% of 2011-2013 COG revenue)	Allocation to Independent Person Units (name of CPS ASEC variable ^a in <i>italics</i>)
Property Taxes (14%)	CPS ASEC <i>proptax</i> if owner household, divided across all independents in the household. Property tax assigned to renters (CPS <i>ownership</i> indicator for paying with cash rent) using the state average of property tax as a percentage of household income for owners from the CPS; property tax set to zero for renters if household income is less than or equal to zero. Difference between the sum of CPS property tax for owners plus property tax assigned to renters and the COG total amount assigned to all independent adults.
General Sales Taxes (10%)	State sales tax amounts from IRS tables assigned based on CPS <i>adjginc</i> (split between spouses for married filing jointly and less remittances of 5% for first generation) and scaled up to match COG total. ^b
Selective Sales Taxes and Public Utilities (5%)	Assigned to all ages 18 and older: <ul style="list-style-type: none">▪ Motor fuels sales taxes▪ Tobacco product sales taxes Assigned to all ages 21 and older: <ul style="list-style-type: none">▪ Alcoholic beverage sales taxes Assigned to all: <ul style="list-style-type: none">▪ Public utilities and other selective sales taxes
Individual Income Taxes (9%)	CPS <i>stataxac</i> scaled to match COG amount (split between spouses for married filing jointly).
Business Taxes (3%)	Assigned within states based on AGI distribution: <ul style="list-style-type: none">▪ Corporate income tax (split between spouses for married filing jointly); Documentary and stock transfer taxes; Corporations in general license; Alcoholic beverages license; Amusements license; Occupation and business license, NEC
Higher Education Charges (3%)	Assigned to all in college (weighted for full time versus half time).
School Lunch Sales (<1%)	Taken out of K–12 expenditures (see Table 9-12).
Other Education Charges (<1%)	Remaining revenue from education charges assigned to all.

continued

TABLE 9-11 Continued

Revenue Flow Type (% of 2011-2013 COG revenue)	Allocation to Independent Person Units (name of CPS ASEC variable ^a in <i>italics</i>)
Insurance Trust Revenues (15%)	Assigned to all people with wage income: <ul style="list-style-type: none">▪ Unemployment compensation contributions▪ Workers' compensation contributions and other insurance trust revenue Assigned to all state and local government employees: <ul style="list-style-type: none">▪ State and local employee retirement contributions
Other Revenues (22%)	Assigned to all: <ul style="list-style-type: none">▪ Taxes: Death and gift taxes; Severance taxes; Taxes NEC▪ License taxes: Hunting and Fishing license; Public utilities license; Other license taxes▪ Current charges (excluding education): Hospital; Highways; Air transportation; Parking facilities; Sea and inland port facilities; Natural resources; Parks and recreation; Housing and community development; Sewerage; Solid waste management; Other charges▪ Miscellaneous general revenue▪ Utility revenue Assigned to all ages 18 and older: <ul style="list-style-type: none">▪ Motor vehicle license and motor vehicle operator's license Assigned to all ages 21 and older: <ul style="list-style-type: none">▪ Liquor store revenues
Intergovernmental Revenues (18%)	COG intergovernmental revenues (from federal government) less COG intergovernmental expenditures (to federal government) assigned to all.

^aVariable names reflect CPS data variable names used in the Integrated Public Use Microdata Series.

^bState sales tax amounts (prior to scaling to COG totals) come from the IRS Optional State and Certain Local Sales Tax Tables. We do not explicitly account for additional local sales taxes but expect them to be captured in scaling to COG totals. The one exception to this is Alaska, which has a statewide local sales tax but no state sales tax; in this case we use the IRS Optional Local Sales Tax Tables for Certain Local Jurisdictions.

TABLE 9-12 Census of Governments (COG) State and Local Expenditure Flow Types and Allocation Methods

Expenditure Flow Type (% of 2011-2013 COG expenditures)	Allocation to Independent Person Units (name of CPS ASEC variable ^a in italics)
Higher Education Expenditures (7%)	Amount (less capital outlays) assigned to all in college (weighted for full time versus half time). <i>Alternative—examine if half of the COG expenditure amount assigned to college students as above and the remaining half assigned evenly to all independent individuals in states.</i>
Elementary and Secondary Education Expenditures (16%)	Amount (less capital outlays and school lunch sales) assigned to all in K-12 (weighted for full time versus half time for high schoolers). <i>Alternative—examine if half of the COG expenditure amount assigned to K-12 students as above and the remaining half assigned evenly to all persons or all independent individuals in states.</i>
Other Education Expenditures and Libraries (4%)	Amount (plus capital outlays from higher education and elementary and secondary education) assigned to all.
Medicaid/Public Welfare (16%)	Medicaid: CPS <i>pmvcaid</i> (for CPS recipients) scaled to match COG vendor payments amount (less the remainder of total Medicaid institutional spending ^b after subtracting out COG spending on institutions for public welfare). Other public welfare: CPS <i>incwelfr</i> (for CPS recipients) scaled to match COG public welfare spending on SSI, TANF, and other cash assistance. Assigned to all: <ul style="list-style-type: none">▪ Vendor payments to private vendors for services other than medical▪ Public welfare administration expenditures
Insurance Trust Expenditure (11%)	Assigned to all people with wage income: <ul style="list-style-type: none">▪ Unemployment compensation▪ Workers’ compensation and other insurance trust Assigned to all state and local government employees: <ul style="list-style-type: none">▪ State and local employee retirement

continued

TABLE 9-12 Continued

Expenditure Flow Type (% of 2011-2013 COG expenditures)	Allocation to Independent Person Units (name of CPS ASEC variable ^a in italics)
Other Expenditures and Capital Outlays (45%)	Assigned to all: <ul style="list-style-type: none">Hospitals; Health; Social insurance administration; Veterans' services; Highways; Air transportation; Parking facilities; Sea and inland; Police protection; Fire protection; Correction; Protective inspection and regulation; Natural resources; Parks and recreation; Housing and community development; Sewerage; Solid waste management; Financial administration; Judicial and legal; General public buildings; Other governmental administration; Interest on general debt; Miscellaneous commercial activities; Other and unallocableUtility expenditure Assigned to all ages 21 and older: <ul style="list-style-type: none">Liquor store expenditure
Intergovernmental Expenditure (<1%)	COG intergovernmental expenditure amount (to federal government) taken out of COG intergovernmental revenue amount (from federal government).

^aVariable names reflect CPS data variable names used in the Integrated Public Use Microdata Series.

^bTotal Medicaid institutional spending (2% of total 2011-2013 COG expenditures) is taken from the Centers for Medicare & Medicaid Services 2015 report *Medicaid Expenditures for Long-Term Services and Supports in FY 2013*, appendix Table D. See <http://www.medicare.gov/medicaid-chip-program-information/by-topics/long-term-services-and-supports/downloads/ltss-expenditures-fy2013.pdf> [November 2016].

TABLE 9-13 Annualized Weighted Sample Cases of Independent Persons by Immigrant Generation by State, Current Population Survey Annual Social and Economic Supplement for 2011-2013

State	Immigrant Generation			Total
	First	Second	Third+	
California	9,250,306	4,136,035	13,307,832	26,694,173
New Jersey	1,751,320	772,147	3,771,057	6,294,524
New York	3,861,185	1,723,287	8,503,595	14,088,067
Nevada	477,237	218,729	1,247,935	1,943,901
Florida	3,258,513	1,312,743	9,763,553	14,334,809
Texas	3,818,671	1,756,376	12,193,672	17,768,719
Hawaii	205,752	150,674	621,632	978,057
Maryland	814,468	307,380	3,159,673	4,281,520
Arizona	865,223	531,020	3,285,407	4,681,650
District of Columbia	85,316	40,448	362,412	488,176
Massachusetts	828,697	577,464	3,447,603	4,853,764
Illinois	1,540,692	718,036	6,908,763	9,167,490
Washington	822,229	482,882	3,655,282	4,960,393
Connecticut	415,692	293,845	1,861,099	2,570,636
Rhode Island	126,085	108,649	545,477	780,212
Virginia	782,112	275,958	4,710,072	5,768,143
Delaware	80,814	29,431	544,748	654,993
Georgia	815,187	235,106	5,750,442	6,800,735
New Mexico	168,429	107,035	1,184,370	1,459,834
Oregon	315,531	231,330	2,288,182	2,835,044
Colorado	398,306	264,829	2,975,143	3,638,278
Alaska	52,703	35,281	405,367	493,351
Nebraska	139,263	51,548	1,124,233	1,315,044
Idaho	107,882	57,765	928,129	1,093,776
North Carolina	652,743	260,141	5,944,608	6,857,492
Utah	173,479	109,824	1,552,991	1,836,295
Michigan	628,807	438,991	6,003,030	7,070,828
Minnesota	328,484	210,376	3,320,867	3,859,727
Kansas	160,448	83,215	1,769,231	2,012,894
Pennsylvania	654,971	542,680	8,283,510	9,481,161
Iowa	141,651	74,120	1,979,890	2,195,661
New Hampshire	62,234	77,990	842,922	983,146
Wisconsin	231,605	196,104	3,723,672	4,151,382
Tennessee	254,822	113,462	4,316,184	4,684,468
Arkansas	111,359	45,188	1,965,865	2,122,411
Kentucky	162,813	63,359	2,932,800	3,158,972
South Carolina	170,719	73,929	3,112,174	3,356,822
Oklahoma	134,805	85,287	2,466,798	2,686,889
Vermont	22,308	38,284	418,140	478,731

continued

TABLE 9-13 Continued

State	Immigrant Generation			Total
	First	Second	Third+	
Indiana	207,956	166,713	4,143,988	4,518,657
Ohio	376,581	355,286	7,577,243	8,309,110
Louisiana	136,282	68,343	2,955,957	3,160,582
Missouri	173,581	121,130	4,056,352	4,351,063
South Dakota	22,998	25,087	540,674	588,759
Alabama	133,617	71,586	3,249,440	3,454,644
Maine	34,121	75,909	907,094	1,017,124
North Dakota	16,025	25,584	460,026	501,636
Wyoming	13,059	15,212	385,954	414,226
Montana	19,432	41,598	678,111	739,141
Mississippi	52,251	28,357	1,956,632	2,037,241
West Virginia	19,248	30,344	1,327,807	1,377,398
Top 15 States by % in First Generation	28,121,384	13,129,714	72,634,993	113,886,092
United States	36,078,012	17,856,095	169,417,639	223,351,747

NOTES: See text for definitions of independent person and immigrant generation. These sample counts are the average number of weighted cases classified as independent persons per year in the Current Population Survey Annual Social and Economic Supplement (ASEC) for 2011-2013. Note that these counts are not representative of the annualized total U.S. population in these years because they do not include dependent children. The ASEC includes cases in February, March, and April of each year. Because of the rotation group design, by which addresses are in the sample for 4 months, out for 8 months, and in again for 4 months, the total 3-year sample double-counts individuals who are in the sample in pairs of years (2011-2012 or 2012-2013). States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2).
SOURCE: Panel tabulations of the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

TABLE 9-14 Sum of Unweighted Sample Cases of Independent Persons by Immigrant Generation by State, Current Population Survey Annual Social and Economic Supplement for 2011-2013 Total

State	Immigrant Generation			Total
	First	Second	Third+	
California	15,823	6,653	18,173	40,649
New Jersey	2,706	983	4,899	8,588
New York	5,526	2,132	10,459	18,117
Nevada	1,901	739	3,914	6,554
Florida	4,889	1,580	10,966	17,435
Texas	6,087	2,731	15,425	24,243
Hawaii	1,725	1,216	4,838	7,779
Maryland	2,190	719	7,415	10,324
Arizona	1,232	663	3,485	5,380
District of Columbia	1,209	509	4,656	6,374
Massachusetts	1,185	697	4,338	6,220
Illinois	2,561	1,048	9,102	12,711
Washington	1,366	696	5,054	7,116
Connecticut	1,641	983	6,540	9,164
Rhode Island	1,222	894	4,589	6,705
Virginia	1,411	460	7,100	8,971
Delaware	905	277	5,311	6,493
Georgia	1,267	325	7,294	8,886
New Mexico	518	304	3,218	4,040
Oregon	766	474	4,460	5,700
Colorado	1,209	706	7,257	9,172
Alaska	587	355	3,964	4,906
Nebraska	828	251	5,125	6,204
Idaho	560	261	3,537	4,358
North Carolina	928	311	6,909	8,148
Utah	595	294	4,062	4,951
Michigan	900	550	7,827	9,277
Minnesota	1,019	498	7,927	9,444
Kansas	581	256	4,935	5,772
Pennsylvania	960	657	10,543	12,160
Iowa	618	256	6,535	7,409
New Hampshire	560	616	6,799	7,975
Wisconsin	533	355	6,759	7,647
Tennessee	330	138	4,982	5,450
Arkansas	304	96	3,876	4,276
Kentucky	328	115	5,280	5,723
South Carolina	311	120	4,929	5,360
Oklahoma	302	162	4,603	5,067
Vermont	289	436	4,816	5,541

continued

TABLE 9-14 Continued

State	Immigrant Generation			Total
	First	Second	Third+	
Indiana	341	226	5,391	5,958
Ohio	530	434	9,492	10,456
Louisiana	192	87	3,737	4,016
Missouri	284	187	5,852	6,323
South Dakota	263	232	5,511	6,006
Alabama	209	91	4,274	4,574
Maine	243	472	6,042	6,757
North Dakota	185	227	4,480	4,892
Wyoming	210	193	4,879	5,282
Montana	103	200	3,399	3,702
Mississippi	112	51	3,734	3,897
West Virginia	70	85	3,977	4,132
Top 15 States by % in First Generation	51,263	22,243	113,853	187,359
United States	70,614	33,001	312,669	416,284

NOTES: See text for definitions of independent person and immigrant generation. These sample counts are the total number of cases classified as independent persons in each Current Population Survey Annual Social and Economic Supplement (ASEC) for 2011-2013. The annual observations for each state and immigrant generation are approximately one-third of the counts listed above. The ASEC includes cases in February, March, and April of each year. Because of the rotation group design, by which addresses are in the sample for 4 months, out for 8 months, and in again for 4 months, the three-year sample counts shown above double count individuals who are in the sample in pairs of years (2011-2012 or 2012-2013). States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2).

SOURCE: Panel tabulations of the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

TABLE 9-15 Average Number of Children (dependents) per Independent Person Unit, by Immigrant Generation by State, 2011-2013

State	Immigrant Generation (average number of children per independent person unit)			All
	First	Second	Third+	
California	0.52	0.39	0.34	0.41
New Jersey	0.48	0.24	0.37	0.38
New York	0.44	0.26	0.36	0.37
Nevada	0.56	0.34	0.34	0.39
Florida	0.39	0.28	0.31	0.32
Texas	0.64	0.47	0.38	0.44
Hawaii	0.44	0.28	0.36	0.37
Maryland	0.47	0.23	0.35	0.36
Arizona	0.59	0.46	0.34	0.40
District of Columbia	0.28	0.14	0.28	0.27
Massachusetts	0.44	0.22	0.35	0.35
Illinois	0.54	0.35	0.36	0.39
Washington	0.56	0.29	0.34	0.37
Connecticut	0.46	0.24	0.37	0.37
Rhode Island	0.47	0.22	0.32	0.33
Virginia	0.51	0.40	0.35	0.38
Delaware	0.49	0.28	0.36	0.37
Georgia	0.57	0.45	0.40	0.42
New Mexico	0.72	0.44	0.35	0.40
Oregon	0.64	0.29	0.32	0.35
Colorado	0.63	0.34	0.36	0.39
Alaska	0.56	0.53	0.40	0.43
Nebraska	0.64	0.33	0.36	0.39
Idaho	0.64	0.41	0.41	0.44
North Carolina	0.61	0.39	0.36	0.39
Utah	0.77	0.44	0.51	0.53
Michigan	0.49	0.22	0.38	0.38
Minnesota	0.64	0.25	0.35	0.37
Kansas	0.65	0.35	0.37	0.39
Pennsylvania	0.50	0.19	0.33	0.33
Iowa	0.56	0.27	0.36	0.37
New Hampshire	0.40	0.23	0.33	0.33
Wisconsin	0.70	0.27	0.35	0.36
Tennessee	0.57	0.29	0.35	0.36
Arkansas	0.64	0.4	0.35	0.37
Kentucky	0.47	0.29	0.36	0.37
South Carolina	0.55	0.37	0.37	0.38
Oklahoma	0.60	0.46	0.37	0.39

continued

TABLE 9-15 Continued

State	Immigrant Generation (average number of children per independent person unit)			All
	First	Second	Third+	
Vermont	0.36	0.19	0.30	0.29
Indiana	0.56	0.43	0.40	0.41
Ohio	0.43	0.27	0.37	0.37
Louisiana	0.40	0.32	0.42	0.41
Missouri	0.46	0.34	0.36	0.36
South Dakota	0.53	0.25	0.38	0.38
Alabama	0.74	0.23	0.37	0.38
Maine	0.40	0.18	0.30	0.30
North Dakota	0.44	0.16	0.35	0.34
Wyoming	0.46	0.23	0.36	0.36
Montana	0.29	0.18	0.35	0.34
Mississippi	0.52	0.28	0.43	0.43
West Virginia	0.56	0.24	0.32	0.32
Top 15 States by % in First Generation	0.51	0.34	0.35	0.39
United States	0.52	0.33	0.36	0.38

NOTE: See text for definitions of independent person unit, dependent person or child, and immigrant generation. States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2).
SOURCE: Panel tabulations of the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

TABLE 9-16 Average Adjusted Gross Income (AGI) per Independent Person Unit (rounded to nearest \$50), by Immigrant Generation by State, 2011-2013

State	Immigrant Generation (\$ AGI per independent person unit)			All
	First	Second	Third+	
California	\$28,800	\$35,950	\$42,450	\$36,700
New Jersey	35,700	37,900	47,250	42,900
New York	28,650	37,550	39,200	36,100
Nevada	26,650	28,250	34,700	32,000
Florida	26,350	32,050	33,800	31,950
Texas	26,100	29,850	37,550	34,300
Hawaii	28,750	29,000	36,400	33,650
Maryland	38,700	45,450	44,700	43,600
Arizona	25,100	28,500	36,100	33,200
District of Columbia	41,950	74,150	55,750	54,850
Massachusetts	35,850	41,200	43,500	41,950
Illinois	27,650	35,200	39,850	37,450
Washington	33,300	34,800	40,900	39,050
Connecticut	40,350	43,050	47,600	45,900
Rhode Island	29,500	29,100	39,650	36,550
Virginia	42,200	52,750	42,200	42,700
Delaware	33,200	32,800	33,250	33,200
Georgia	28,200	37,450	34,000	33,450
New Mexico	31,300	33,050	34,750	34,200
Oregon	28,650	32,850	32,800	32,350
Colorado	29,550	39,150	41,800	40,250
Alaska	33,800	43,050	39,450	39,100
Nebraska	24,800	31,100	37,250	35,700
Idaho	23,100	28,700	31,350	30,400
North Carolina	29,850	35,800	30,900	31,000
Utah	27,100	31,450	34,900	33,950
Michigan	30,700	31,900	32,650	32,400
Minnesota	28,200	34,050	39,650	38,400
Kansas	24,750	27,550	34,850	33,750
Pennsylvania	33,650	29,200	33,950	33,700
Iowa	26,400	25,050	33,850	33,050
New Hampshire	41,850	35,100	41,100	40,650
Wisconsin	24,200	29,900	34,900	34,100
Tennessee	28,650	27,500	28,500	28,500
Arkansas	23,500	31,550	25,950	25,950
Kentucky	22,550	35,650	27,500	27,450
South Carolina	30,350	37,500	27,550	27,900

continued

TABLE 9-16 Continued

State	Immigrant Generation (\$ AGI per independent person unit)			
	First	Second	Third+	All
Oklahoma	32,300	37,000	32,300	32,450
Vermont	31,550	34,000	34,750	34,500
Indiana	35,400	32,300	30,900	31,150
Ohio	28,150	38,450	30,850	31,050
Louisiana	20,850	25,950	29,200	28,800
Missouri	29,550	33,750	34,000	33,800
South Dakota	24,150	23,150	32,800	32,050
Alabama	28,250	39,650	30,050	30,150
Maine	32,750	28,400	32,050	31,800
North Dakota	37,000	22,650	39,800	38,850
Wyoming	27,100	30,300	35,800	35,300
Montana	23,450	21,650	28,900	28,350
Mississippi	30,000	30,550	26,850	27,000
West Virginia	36,150	39,450	28,200	28,600
Top 15 States by % in First Generation	29,150	35,150	39,850	36,700
United States	29,450	34,900	35,900	34,800

NOTES: See text for definitions of independent person unit and immigrant generation. States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2).
SOURCE: Panel tabulations of the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

TABLE 9-17 Percentage with Less Than a High School Degree (<HS) and More Than a Bachelor's Degree (>BA), Independent Persons by Immigrant Generation by State, 2011-2013

State	Immigrant Generation (independent persons)							
	First		Second		Third+		All	
	<HS	>BA	<HS	>BA	<HS	>BA	<HS	>BA
California	34	8	10	10	7	12	17	11
New Jersey	18	13	9	15	7	12	10	13
New York	22	11	9	16	9	14	13	13
Nevada	26	6	13	6	7	8	12	8
Florida	19	8	6	13	8	10	10	10
Texas	43	7	18	8	10	9	18	8
Hawaii	17	8	8	9	4	10	8	10
Maryland	19	21	4	23	8	15	10	16
Arizona	36	9	12	9	8	11	14	11
District of Columbia	23	27	3	45	8	28	10	29
Massachusetts	19	17	6	22	7	17	9	17
Illinois	26	12	8	13	7	11	10	11
Washington	25	12	7	12	5	11	9	11
Connecticut	17	19	9	16	7	16	9	17
Rhode Island	33	9	13	11	9	13	14	12
Virginia	16	17	4	19	9	13	10	14
Delaware	27	14	5	11	8	9	10	10
Georgia	23	12	6	14	10	9	12	10
New Mexico	40	12	14	17	11	14	15	14
Oregon	25	12	4	16	7	10	9	11
Colorado	37	10	9	14	5	14	9	13
Alaska	18	8	11	7	7	9	8	8

continued

TABLE 9-17 Continued

State	Immigrant Generation (independent persons)							
	First		Second		Third+		All	
	<HS	>BA	<HS	>BA	<HS	>BA	<HS	>BA
Nebraska	45	9	10	6	5	9	9	9
Idaho	45	6	12	9	6	8	10	8
North Carolina	32	12	13	16	11	9	13	9
Utah	30	9	8	10	6	9	8	9
Michigan	19	19	7	16	8	9	9	10
Minnesota	26	13	8	10	5	9	7	10
Kansas	31	15	14	17	6	11	9	11
Pennsylvania	14	17	10	12	10	9	10	9
Iowa	37	13	13	12	8	7	10	7
New Hampshire	10	19	8	14	6	12	7	12
Wisconsin	31	12	13	12	6	9	8	9
Tennessee	31	8	7	6	12	8	13	8
Arkansas	37	10	9	5	13	6	14	6
Kentucky	24	17	4	13	13	7	13	8
South Carolina	24	16	8	17	13	9	13	9
Oklahoma	31	14	17	13	9	8	10	9
Vermont	12	15	8	16	8	13	8	13
Indiana	32	14	10	6	9	8	10	8
Ohio	22	15	8	12	10	7	11	8
Louisiana	26	7	6	10	14	7	14	7
Missouri	18	21	14	19	11	9	11	10
South Dakota	33	10	17	4	7	7	9	7
Alabama	42	14	9	14	13	9	14	9

Maine	14	19	14	10	8	9	8	10
North Dakota	16	18	19	5	6	7	7	7
Wyoming	26	12	14	5	7	7	8	7
Montana	11	14	8	10	6	9	6	9
Mississippi	21	9	NA	8	16	7	16	7
West Virginia	8	39	3	12	13	7	13	8
Top 15 States by % in First Generation	29	10	10	12	8	12	13	11
United States	28	11	10	12	9	10	12	10

NOTES: See text for definitions of independent person and immigrant generation. States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2). NA: Not available (Mississippi has no sample persons in this category).

SOURCE: Panel tabulations of the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

TABLE 9-18 Net Difference between State and Local Revenues and Expenditures per Independent Person Unit (rounded to nearest \$50), Including Coefficient of Variation Below, by Immigrant Generation by State, 2011-2013

State	Immigrant Generation			All
	First	Second	Third+	
California	-\$2,050 (9%)	\$1,550 (15%)	\$3,100 (6%)	\$1,050 (13%)
New Jersey	-1,850 (23%)	2,300 (15%)	700 (45%)	200 (130%)
New York	-1,500 (24%)	4,400 (12%)	2,600 (12%)	1,700 (15%)
Nevada	-1,300 (24%)	1,000 (38%)	1,950 (9%)	1,050 (16%)
Florida	-350 (46%)	1,200 (20%)	1,350 (9%)	950 (10%)
Texas	-2,050 (9%)	-400 (68%)	1,400 (9%)	450 (23%)
Hawaii	-700 (77%)	1,250 (26%)	1,700 (13%)	1,150 (19%)
Maryland	-100 (407%)	2,050 (24%)	550 (37%)	550 (33%)
Arizona	-1,350 (32%)	250 (172%)	1,750 (15%)	1,000 (20%)
District of Columbia	-2,800 (35%)	7,100 (14%)	-1,300 (48%)	-850 (60%)
Massachusetts	-2,250 (23%)	2,300 (24%)	500 (61%)	250 (116%)
Illinois	-2,700 (13%)	550 (72%)	1,000 (17%)	350 (50%)
Washington	-3,050 (22%)	600 (76%)	750 (35%)	100 (196%)
Connecticut	-600 (66%)	3,550 (10%)	1,300 (20%)	1,250 (16%)
Rhode Island	-1,500 (33%)	2,100 (18%)	1,600 (16%)	1,150 (20%)
Virginia	-600 (73%)	1,300 (48%)	800 (23%)	650 (25%)
Delaware	-500 (130%)	2,050 (33%)	750 (36%)	650 (39%)
Georgia	-1,250 (29%)	650 (103%)	800 (18%)	550 (24%)

TABLE 9-18 Continued

State	Immigrant Generation			All
	First	Second	Third+	
New Mexico	-2,550 (30%)	250 (338%)	1,000 (27%)	550 (46%)
Oregon	-1,900 (36%)	2,250 (29%)	1,650 (15%)	1,300 (17%)
Colorado	-2,950 (14%)	1,050 (31%)	900 (20%)	500 (37%)
Alaska	3,950 (31%)	5,800 (21%)	6,850 (5%)	6,450 (6%)
Nebraska	-2,200 (29%)	1,500 (45%)	1,900 (13%)	1,450 (14%)
Idaho	-1,050 (50%)	600 (89%)	1,500 (21%)	1,200 (25%)
North Carolina	-650 (74%)	1,700 (43%)	1,500 (12%)	1,300 (14%)
Utah	-1,950 (31%)	-450 (146%)	500 (36%)	250 (82%)
Michigan	-250 (189%)	2,550 (18%)	800 (18%)	800 (18%)
Minnesota	-5,100 (18%)	3,250 (20%)	2,200 (11%)	1,600 (14%)
Kansas	-2,450 (37%)	1,150 (57%)	1,150 (16%)	850 (23%)
Pennsylvania	-1,250 (41%)	1,750 (23%)	250 (56%)	250 (57%)
Iowa	-1,000 (58%)	2,550 (24%)	1,550 (14%)	1,450 (15%)
New Hampshire	-550 (104%)	1,750 (19%)	550 (26%)	600 (23%)
Wisconsin	-3,650 (23%)	1,550 (43%)	1,550 (11%)	1,250 (16%)
Tennessee	-700 (71%)	1,250 (60%)	750 (27%)	700 (27%)
Arkansas	-1,200 (89%)	1,650 (72%)	1,450 (17%)	1,300 (18%)
Kentucky	-950 (77%)	2,400 (38%)	100 (156%)	100 (170%)
South Carolina	150 (441%)	2,400 (42%)	550 (31%)	600 (28%)
Oklahoma	200 (345%)	1,950 (44%)	1,500 (12%)	1,450 (12%)

continued

TABLE 9-18 Continued

State	Immigrant Generation			All
	First	Second	Third+	
Vermont	250 (414%)	3,400 (16%)	1,000 (23%)	1,150 (19%)
Indiana	150 (574%)	1,750 (36%)	1,050 (14%)	1,050 (14%)
Ohio	450 (153%)	3,650 (18%)	1,500 (12%)	1,550 (11%)
Louisiana	-400 (211%)	-1,100 (99%)	-250 (97%)	-250 (88%)
Missouri	-150 (478%)	2,250 (37%)	1,200 (22%)	1,200 (23%)
South Dakota	-550 (169%)	1,500 (42%)	1,850 (13%)	1,750 (13%)
Alabama	-1,100 (86%)	2,500 (39%)	550 (33%)	550 (35%)
Maine	-350 (360%)	2,450 (17%)	750 (26%)	850 (22%)
North Dakota	3,250 (33%)	5,500 (12%)	5,400 (4%)	5,350 (4%)
Wyoming	1,300 (61%)	3,550 (21%)	3,450 (6%)	3,400 (5%)
Montana	1,850 (54%)	1,250 (69%)	950 (32%)	950 (32%)
Mississippi	1,300 (110%)	2,600 (52%)	1,350 (19%)	1,400 (19%)
West Virginia	550 (250%)	3,850 (24%)	1,500 (18%)	1,550 (17%)
United States	-1,600 (5%)	1,700 (6%)	1,300 (3%)	900 (4%)

NOTES: See text for construction of revenues and expenditures by state and generation. Coefficient of variation (CV) = standard error divided by the estimate; generally estimates with a CV of less than or equal to 10 percent of the estimate are considered statistically reliable in the profession. States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2). Caution should be taken when examining the state-level estimates, especially those near the bottom of the table, because of small first (and second) generation populations for many states.

SOURCE: Panel estimates implemented on the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

TABLE 9-19 Average Household Size per Household Unit, by Immigrant Generation by State, 2011-2013

State	Immigrant Generation (household units)			All
	First	Second	Third+	
	3.35	2.85	2.41	2.77
California				
New Jersey	3.13	2.17	2.48	2.60
New York	2.77	2.22	2.34	2.43
Nevada	3.19	2.51	2.36	2.55
Florida	2.70	2.25	2.25	2.34
Texas	3.42	2.87	2.46	2.68
Hawaii	3.31	2.55	2.73	2.81
Maryland	3.20	2.37	2.50	2.60
Arizona	3.00	2.68	2.34	2.49
District of Columbia	2.31	1.84	1.99	2.02
Massachusetts	2.83	2.24	2.52	2.53
Illinois	3.20	2.41	2.34	2.47
Washington	3.23	2.39	2.41	2.53
Connecticut	2.93	2.14	2.49	2.51
Rhode Island	2.81	2.07	2.40	2.41
Virginia	3.33	2.33	2.43	2.52
Delaware	3.37	2.16	2.47	2.55
Georgia	3.11	2.90	2.42	2.50
New Mexico	3.20	2.42	2.37	2.47
Oregon	3.26	2.25	2.34	2.43
Colorado	3.20	2.44	2.39	2.47
Alaska	3.07	2.90	2.43	2.52
Nebraska	3.29	2.31	2.37	2.45
Idaho	3.44	2.52	2.62	2.69
North Carolina	3.23	2.61	2.33	2.40
Utah	3.75	2.92	2.97	3.03
Michigan	2.97	2.20	2.45	2.48
Minnesota	3.27	2.05	2.38	2.42
Kansas	3.05	2.35	2.36	2.41
Pennsylvania	2.76	2.01	2.38	2.38
Iowa	3.12	2.15	2.36	2.39
New Hampshire	2.86	2.17	2.49	2.48
Wisconsin	3.30	2.03	2.35	2.38
Tennessee	3.00	2.11	2.36	2.39
Arkansas	3.39	2.73	2.36	2.42
Kentucky	2.54	2.19	2.36	2.37
South Carolina	3.18	2.41	2.33	2.37
Oklahoma	2.96	2.57	2.43	2.46
Vermont	2.55	2.11	2.36	2.34

continued

TABLE 9-19 Continued

State	Immigrant Generation (household units)			All
	First	Second	Third+	
Indiana	3.01	2.47	2.46	2.48
Ohio	2.70	2.16	2.39	2.39
Louisiana	2.71	2.14	2.43	2.44
Missouri	2.86	2.32	2.37	2.38
South Dakota	2.98	2.10	2.39	2.40
Alabama	3.26	2.00	2.40	2.42
Maine	2.52	2.02	2.33	2.31
North Dakota	2.54	1.77	2.33	2.30
Wyoming	2.74	2.19	2.41	2.41
Montana	2.64	1.84	2.32	2.30
Mississippi	2.89	2.27	2.47	2.48
West Virginia	2.85	2.15	2.32	2.32
Top 15 States by % in First Generation	3.12	2.53	2.39	2.57
United States	3.11	2.46	2.40	2.50

NOTE: See text for definitions of household immigrant generation. States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2).

SOURCE: Panel tabulations of the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

TABLE 9-20 Annualized Weighted Sample Cases of Households by Immigrant Generation by State, Current Population Survey Annual Social and Economic Supplement for 2011-2013

State	Immigrant Generation (household units)			All
	First	Second	Third+	
California	4,165,605	1,909,347	7,290,777	13,365,729
New Jersey	800,286	417,914	2,014,610	3,232,810
New York	1,931,804	938,610	4,799,345	7,669,759
Nevada	221,452	114,295	708,295	1,044,042
Florida	1,633,088	714,054	5,590,941	7,938,082
Texas	1,790,863	897,525	6,734,224	9,422,612
Hawaii	87,836	75,432	298,703	461,970
Maryland	355,518	167,081	1,692,462	2,215,061
Arizona	434,177	288,928	1,840,934	2,564,039
District of Columbia	45,174	25,062	230,009	300,244
Massachusetts	402,195	326,099	1,849,285	2,577,578
Illinois	725,138	398,153	3,941,849	5,065,140
Washington	396,778	262,069	2,011,809	2,670,655
Connecticut	209,041	166,248	1,006,186	1,381,475
Rhode Island	64,911	61,840	302,730	429,481
Virginia	344,930	146,510	2,616,571	3,108,012
Delaware	33,915	17,280	298,211	349,406
Georgia	382,297	116,885	3,286,581	3,785,763
New Mexico	85,943	65,467	650,302	801,713
Oregon	157,829	133,985	1,249,616	1,541,430
Colorado	197,560	148,757	1,659,617	2,005,935
Alaska	25,451	18,874	227,630	271,955
Nebraska	65,732	30,673	639,860	736,265
Idaho	51,831	30,059	507,833	589,722
North Carolina	292,724	142,004	3,429,987	3,864,714
Utah	75,762	56,737	790,040	922,539
Michigan	309,768	242,271	3,310,617	3,862,656
Minnesota	162,845	133,355	1,868,256	2,164,456
Kansas	79,486	45,724	1,027,262	1,152,473
Pennsylvania	332,324	332,286	4,593,236	5,257,846
Iowa	67,251	47,449	1,124,796	1,239,496
New Hampshire	29,221	46,888	444,335	520,444
Wisconsin	108,938	126,223	2,098,162	2,333,323
Tennessee	128,032	61,266	2,444,634	2,633,932
Arkansas	51,843	20,457	1,097,159	1,169,458
Kentucky	91,897	39,889	1,660,988	1,792,775
South Carolina	74,065	35,736	1,746,109	1,855,910
Oklahoma	68,796	51,493	1,393,898	1,514,187
Vermont	10,733	22,360	230,817	263,910

continued

TABLE 9-20 Continued

State	Immigrant Generation (household units)			All
	First	Second	Third+	
Indiana	103,939	99,918	2,341,293	2,545,150
Ohio	180,261	226,818	4,293,483	4,700,562
Louisiana	67,474	36,549	1,649,038	1,753,061
Missouri	86,649	77,525	2,327,948	2,492,123
South Dakota	11,226	16,247	309,966	337,439
Alabama	67,486	40,388	1,780,690	1,888,564
Maine	20,112	45,719	499,588	565,419
North Dakota	7,936	16,919	266,819	291,675
Wyoming	6,955	9,593	219,098	235,646
Montana	7,903	26,384	394,971	429,258
Mississippi	23,561	16,190	1,097,737	1,137,487
West Virginia	10,119	21,168	751,852	783,140
Top 15 States by % in First Generation	13,263,865	6,762,657	40,312,156	60,338,678
United States	17,086,659	9,508,706	94,641,157	121,236,522

NOTES: See text for definitions of household immigrant generation. These sample counts are the average number of weighted cases classified as households per year in the Current Population Survey Annual Social and Economic Supplement (ASEC) for 2011-2013. The ASEC includes cases in February, March, and April of each year. Because of the rotation group design, by which addresses are in the sample for 4 months, out for 8 months, and in again for 4 months, the total 3-year sample double-counts households that are in the sample in pairs of years (2011-2012 or 2012-2013). States are listed from highest to lowest percentage of first generation independent persons in the state's population of independent persons (see Table 9-2).

SOURCE: Panel tabulations of the Current Population Survey Annual Social and Economic Supplement for 2011-2013.

10

Research Directions and Data Recommendations

A detailed review of the research literature upon which this report is built reveals that much is known about the economic and fiscal impacts of immigration. A rich portrayal of the roles that immigrants have played in recent U.S. economic history can be drawn, and short-run labor market and public finance outcomes can even be forecast reasonably well (Kerr and Kerr, 2013). But even with the theoretical and empirical advances of recent decades, some questions remain difficult to answer comprehensively and accurately. In some cases, research is constrained by a still emerging conceptual clarity; more often, however, it is hindered by data limitations. Data on immigrants and their descendants—on nativity, education, age and date of arrival, time spent in the United States, and legal status at present and upon entry—are central to analyses of the economic and fiscal impacts of immigration.

In this chapter, the panel recommends next steps for improving the data infrastructure necessary to support continued advances on the research topics detailed in this report. The data needed to study fiscal and economic impacts of immigrants are similar to the data needed to study their integration into society. Therefore, many of the recommendations presented here previously appeared in the report by our sister panel, *The Integration of Immigrants into American Society* (National Academies of Sciences, Engineering, and Medicine, 2015, hereafter “the *Integration* report”). In addition to presenting formal recommendations, we identify several opportunities to enhance available data but do not formally recommend them. While these data would be valuable to researchers, they do not rise to the

same level of importance or their collection may be less feasible than the data enhancements we recommend.

10.1 COUNTING AND CHARACTERIZING IMMIGRANTS AND THEIR DESCENDANTS

To understand the effects of immigration on society and the economy, it is necessary to know how many immigrants have arrived in the country, when they arrived, and from where. As discussed in Chapter 2, answers to these seemingly basic questions can be surprisingly difficult to obtain and will continue to be so without further improvement of data sources. Every Decennial Census from 1850 to 2000 included a question on birthplace (foreign-born respondents were also asked about country of birth), which allowed the size of the foreign-born population to be measured. Data on the foreign-born are also collected by the American Community Survey (ACS), a large household survey that replaced the long-form Decennial Census after 2000, and, since 1994, the Current Population Survey (CPS), which is designed for the primary purpose of monitoring labor market trends. These data sources provide information about basic demographic and socioeconomic characteristics—age, sex, marital status, employment status, occupation, income, earnings, and educational attainment—of the foreign-born. The foreign-born population includes permanent residents, persons on temporary work and student visas, and undocumented residents who entered the country either without inspection or have overstayed visas; however, neither the CPS nor the ACS identify the legal status of respondents. The Census Bureau also produces population projections that estimate the future size of the foreign-born population based on a set of demographic assumptions.¹

Although it is important to build into the nation's statistical infrastructure the capacity to monitor progress of the foreign-born population, it is equally critical to do so for their U.S.-born children who, as native-born citizens, reveal a great deal about how new Americans are integrating into society and helping to shape the nation's economic and demographic landscape. The ability to identify second generation respondents is extremely desirable for empirical analyses of both labor market and fiscal impacts of immigration. As with the foreign-born themselves, their children may on average attain different education and skill levels (often higher—see

¹Because of the inconsistencies in the Decennial Census series and the lack of counts of the second generation population, the Pew Research Center also produces projections, including separate projections for the second and third-plus generations, which are used for some of the fiscal impact estimates in Chapter 8 of this report. The Pew population series differs slightly from official census data because of methods of adjustment, estimation, and projection, but the differences are generally less than 1 percentage point, well within the margin of error.

Chapter 8), achieve different occupational outcomes, and generate at least slightly different fiscal impacts compared with the general population. In turn, their presence may affect employment rates and composition (either positively or negatively), as well as per capita earnings, taxes paid, and social program utilization—all integral to fiscal and labor market outcomes.

Thus, for analyzing the earnings and occupational integration of immigrants and their descendants, and for a range of other research purposes, a question on parental birthplace is needed for a large representative sample of the population. Such a question was first added to the 1890 Decennial Census² but was dropped for the 1980 and subsequent Decennial Censuses. In 1994, the CPS helped to ameliorate the situation by adding two questions about parental birthplace: “In what country was your father born?” and “In what country was your mother born?” The CPS is, however, not exactly comparable to the Decennial Census or to the ACS; it only covers the civilian, noninstitutionalized population, and it includes data on a different set of potential covariates. Massey (2010) provides a definitive discussion of immigration measurement issues and explains why a question about parents’ birthplace is crucially needed on the ACS. In so doing, he also notes the primary constraint inherent in the relatively small sample size of the CPS (compared to the ACS or the long-form Decennial Census): the CPS sample size is often inadequate to address questions about immigrants by nationality groups, and the problem is intensified for smaller geographic areas.³ As Massey (2010, p. 128) notes, the CPS allows one to “study second-generation Mexican immigrants in California, but is of little use if one seeks information about second-generation Koreans in Oregon—the sample will just be too small.” For cases in which the CPS is inadequate for studying subgroups, the ACS would often provide the sample size needed to do so. For this reason, and others cited above, a modification to the ACS is warranted:

²From 1890 through 1930, parental birthplace questions were asked of all census respondents. With the advent of sampling in the 1940 census, these questions were asked only to a subset of the population: for every 20th person (5%) in the 1940 census, for every 5th person (20%) in the 1950 census, for 25 percent of *households* in the 1960 census, and for 15 percent of *households* in the 1970 census.

³The relevant part of the CPS (the March supplement) has a sample size of around 75,000 households, which yields, on average, information on more than 11,000 foreign-born households and 26,000 foreign-born individuals. The March supplement also significantly oversamples Hispanics and, to a lesser degree, Asians. A list of all the surveys that collect data on immigration can be found at the University of California, Berkeley, Population Center. Available: http://www.popcenter.berkeley.edu/resources/migration_data_sets/data_by_region.php [November 2015].

Recommendation 1: The U.S. Census Bureau should add a question on the birthplace of parents to the American Community Survey.⁴

With such an enhancement to the ACS, fiscal analyses such as those reported on in Chapter 9 of this report would be more robust because more characteristics of the foreign-born and the second generation could be compared against the rest of the population at the state or substate level.

During this panel's work estimating the fiscal impact of immigration, it also became clear that, in addition to asking about parental birthplace, it would be useful to have data on parents' educational attainment. The absence of this information even in the CPS, which includes information on parental birthplace, means that both *The New Americans* (National Research Council, 1997) and the analyses in this report (Chapter 8)—along with many other studies—must rely on average intercohort education levels (a comparison of the mean values for different cohorts), a simplifying assumption that affects a large research literature, not just that on immigration. If microdata existed to compare individuals and their parents, estimates of intergenerational transmission of educational attainment and the determinants thereof would be much more precise.

Recommendation 2: As a first step toward addressing the issue of intergenerational transmission of educational attainment, the Current Population Survey should ask respondents about parents' educational attainment as a follow-up to the existing questions about parental birthplace.

As discussed below, some research questions about immigrants and their descendants are best addressed by tracking populations over a number of years. Longitudinal studies of the second generation are needed to provide information about their economic and social contributions, about their labor market and fiscal impact, and about how they integrate along various dimensions over time—essential aspects of the country's overall immigration experience. Past academically sponsored efforts, such as the New Immigrant Survey (Jasso et al., 2006), have attempted to do this, but that particular survey was limited to legal immigrants arriving in certain years. A survey similar to the National Education Longitudinal Studies, but focused on a large second generation sample followed from early adolescence into adulthood, would enhance immigration research.⁵

⁴This recommendation is replicated from the *Integration* report (p. 429, Recommendation 10-1).

⁵Detailed, individual-level data of this kind, often required for capturing and analyzing processes as they unfold, require safe access that protects privacy and confidentiality.

In addition, the *Integration* report recommends that a number of currently operating national longitudinal surveys “should oversample the foreign-born, especially the smaller Asian and non-Mexican Hispanic groups that, when combined, make up a significant share of the immigrant population.” Existing models of how to oversample key populations can be found in a range of surveys, such as the National Health Interview Survey, the Panel Study of Income Dynamics, and the National Health and Nutrition Examination Survey (National Academies of Sciences, Engineering, and Medicine, 2015, p. 432).

10.2 INFORMATION ON LEGAL STATUS

A second major limitation of Decennial Census, ACS, and CPS data for studying immigration is that neither current visa status nor visa status at time of arrival are recorded, making it impossible to distinguish between lawful permanent residents (“green card” holders), persons on temporary nonimmigrant visas for work or study, persons with other types of visas, and persons who lack an official visa. As a result, it is common statistical practice to refer to the foreign-born population in a census or survey as “immigrants” even though such a categorization will typically include foreign students, various workers on temporary employment visas, those on temporary residence visas, and migrants who are not authorized to be in the country.⁶ For this reason, better data are needed on visa status, initially and currently, as well as on time and age at arrival (which is already collected).

There is considerable mobility across visa categories as well, and current visa status does not always predict who stays permanently. Legal status has been shown in a number of surveys to be a dynamic variable that changes over time, as immigrants’ circumstances change. As highlighted in the *Integration* report (National Academies of Sciences, Engineering, and Medicine, 2015, p. 430), “The attainment of legal status and eventual citizenship are likely to be crucial steps in the process of economic and social integration, yet researchers presently lack the means to model them.”

Such protections are a feature of the U.S. Census Bureau’s Federal Statistical Research Data Centers, which enable researchers—albeit with some level of burden relative to public access sources—to access and analyze microdata and small-area data (for details, see <http://www.census.gov/fsrdc>).

⁶There are many types of temporary visas that permit people to reside (and sometimes work) legally in the United States—usually for 1 year or less, although some temporary visas can be renewed for several years. Temporary resident visas are issued for visitors; fiancés and spouses of U.S. citizens; entertainers, athletes, and religious workers; Canadian and Mexican professionals; business trainees; and others that are allowed to reside in the United States for short periods of time. See Chapter 3 of the *Integration* report for details on the various visa and other statuses for temporary and long-term entry to the United States.

Because there is no official count of persons who are in the United States without a valid visa—the unauthorized population⁷—an additional question should be considered for the CPS:

Recommendation 3: The U.S. Census Bureau and the Bureau of Labor Statistics should test and, if feasible, add a question on the monthly Current Population Survey that allows respondents to select among various well-defined legal statuses at entry or at present, leaving those in undocumented status to be identified by process of elimination.⁸

Following this guidance provides a good starting point but undocumented persons are likely to be under-enumerated in surveys and censuses. The purpose of the recommended pretest is to determine whether the inclusion of such questions might have a deleterious effect on survey participation. For these reasons, in addition to the “process of elimination method” suggested in the above recommendation, creative use of administrative and other kinds of data is desirable to identify immigrant populations of interest, such as the authorized and nonauthorized.⁹

It is also possible to tap into legalization programs to learn more about the subset of immigrants applying for citizenship. As an example of how this opportunity has been exploited in the past, the *Integration* report cites the 1986 Immigration Reform and Control Act (IRCA), which mandated a survey of immigrants who legalized. The survey, which collected data on “how they entered the United States, where they fit into the labor market, demographic characteristics, family composition, use of social services, migration behavior and origins . . . illuminated the behavior of a population for which there previously was little systematic information” (*Integration* report, p. 430). The potential of this kind of instrument points to a clear strategy for additional systematic data collection:

⁷The expert consensus is that the unauthorized population peaked at approximately 12 million in 2007, then fell to about 11 million in the wake of the Great Recession (Baker and Rytina, 2013; Passel et al., 2013).

⁸This recommendation is adapted from the *Integration* report (p. 430, Recommendation 10-2).

⁹Van Hook et al. (2014) presented evidence about coverage of the Mexican-born population in the 2000 U.S. Decennial Census and in the ACS using death and birth registrations and a net migration method. “For the late 1990s and first half of the 2000–2010 decade, results indicate that coverage error was somewhat higher than currently assumed but had substantially declined by the latter half of the 2000–2010 decade . . . [and] that U.S. census and ACS data miss substantial numbers of children of Mexican immigrants, as well as people who are most likely to be unauthorized: namely, working-aged Mexican immigrants (ages 15–64), especially males” (Van Hook et al., 2014, p. 699).

Recommendation 4: Congress should include a provision in the next immigration bill to survey the undocumented population. Data should be collected in two ways: USCIS [U.S. Citizenship and Immigration Services] should collect data on applicants who were previously out-of-status or entered without inspection, and government statistical agencies should conduct surveys similar to those conducted after the Immigration Reform and Control Act.¹⁰

Legalization programs certainly create targeted opportunities to learn more about individuals who were previously living without legal status in a way that provides a window on the broader group; however, it is important for data users to recognize that those who legalize are a selected group that is not fully representative of their counterparts who have not legalized.

Currently, data on legal immigrants entering the United States and those applying for benefits such as naturalization collected by the Department of Homeland Security (including USCIS), the State Department, and the Office of Refugee Resettlement are generally limited to data items needed for processing cases. The collection of additional information would make it possible to maximize the research value of these administrative data and to allow specific questions of interest to be addressed.

Recommendation 5: Data on naturalizations (for which the Department of Homeland Security has a record of every case) should be linked with the data on admissions. Similarly, data on attaining lawful permanent resident status should be linked to the individual's temporary visa history. This would make it possible to monitor how individuals progress through the immigration system.

Additional data, such as on occupation and education, could be collected from all applicants for lawful permanent resident status. Information on family members admitted at the same time could be linked and information on sponsors added. These additional data items could be collected from a sample of the people processed every year. A 10 percent sample of the admissions/naturalizations each year, for example, would generate a dataset with about 100,000 awards of lawful permanent residence and 75,000 naturalizations every year. Of course, as pointed out in the *Integration* report (National Academies of Sciences, Engineering, and Medicine, 2015, p. 431), such an expansion in administrative data collection only creates value if the information can be made available to researchers and the public in secure data centers.

¹⁰This recommendation is adapted from the *Integration* report (p. 431, Recommendation 10-4).

Understanding of the unauthorized and other immigrant populations could be further enhanced by exploiting longitudinal data sources. This panel supports the idea behind the recommendation advanced in the *Integration* report (National Academies of Sciences, Engineering, and Medicine, 2015, p. 430) to add questions about legal status to a select set of longitudinal surveys that contain significant numbers of foreign-born respondents. The New Immigrant Survey, the Survey of Income and Program Participation, and the Los Angeles Family and Neighborhood Study are examples of surveys that include direct questions on legal status. This modification could be considered for the Panel Study of Income Dynamics, the National Health Interview Survey, the National Education Longitudinal Survey, and the National Health and Nutrition Examination Survey. However, careful pretesting would be needed to assess the potential impact on response rates overall, and of undocumented immigrants in particular, of asking respondents about legal status. The integrity of these very important surveys should not be risked unless it can be convincingly established that eliciting truthful answers about legal status from respondents will not create undue risks to the entire enterprise.

10.3 MEASUREMENT OF IMMIGRATION AND EMIGRATION PATTERNS

Longitudinal data are also essential for uncovering the correlates of a range of social and economic outcomes of immigration (National Research Council, 1996). Likewise, the ability to follow individuals and cohorts over time is crucial to understanding factors behind geographic movements—for example, those affecting emigration, circular migration, and interstate migration—and analyzing selection effects associated with these behaviors (in this case, the factors or characteristics that are causally linked with immigration and emigration). Given that the earnings, tax payments, or program use of those who stay are systematically different from those who leave, measures of return and circular migration are especially important for estimating long-term economic impacts.¹¹

For the same reasons, longitudinal data that are valuable for tracking changing legal status of individuals, return or circular migration, or changes in patterns of program use are also essential for projecting fiscal impacts with precision. In their discussion of return migration, Kerr and Kerr (2011) pointed out that analyses of fiscal impacts often assume that immi-

¹¹The U.S. Immigration and Naturalization Service ceased publishing emigration data in 1958 because the data available were thought to be incomplete, but alternative estimates based on recent research suggest that current emigration levels are not insignificant (Van Hook et al., 2006).

grants remain permanently in the host country after arrival; public service use and taxes paid are then estimated on the basis of cross-sectional patterns. The authors conclude that, in order to “provide a better estimate of the mean effect and also characterize the heterogeneity in immigrant types,” calculations of both labor market and fiscal impacts need to consider rates of return migration and identify selective outflow (Kerr and Kerr, 2011, p. 69). This advice is followed in the forward-looking fiscal projections presented in Chapter 8, which incorporate population projections by the Pew Research Center that include adjustments to account for out-migration.¹²

Better data on remittances would also enhance immigration research. Remittances dampen the contribution of immigrants to aggregate demand in the host country while stimulating aggregate demand in the origin country into which the funds flow; by extension, some fiscal benefits in the host country attributable to immigrants may likewise be weakened (Kerr and Kerr, 2011). If questions on respondents’ own and parental nativity were added to an existing survey, such as the Survey of Consumer Finances and the Consumer Expenditure Survey, the resultant data could prove useful for refining understanding of spending and remittance behavior among immigrants. The fiscal accounting exercises in Chapters 8 and 9 build in adjustments to account for the impact of remittances on consumption and sales taxes paid; however, these adjustments were based on data for Germany because adequate U.S. data were unavailable.

10.4 EXPLOITING MULTIPLE DATA SOURCES

For a wide range of information needs underpinning immigration research, strategic linking of administrative datasets—on visa status for example—and other sources beyond traditional household surveys can greatly enhance the capacity to track variables of interest, particularly at the individual level, over time. USCIS and other federal agencies compile administrative data containing detailed information about immigrants, including flows of new arrivals by visa status and data on newly naturalized U.S. citizens. However, the published data are aggregated in a way that offers only very basic cross-tabulations. It is impossible to use these data for fine-grained analyses, which typically require micro-level data on individuals and the ability to link to additional information sources, such as aggregate data on localities.

¹²The cumulative return rates used in the analysis are segmented by age and by duration in the United States. The return rate is about .24 for immigrants in their first 10 years in the country and about .31 during the first 50 years after arrival. These estimates are within a percentage point or two of the return rates used in the forward looking fiscal analysis presented in *The New Americans* (National Research Council, 1997).

Sometimes key pieces of information cannot be gleaned from household surveys. An example, used in the estimation of state and local fiscal impacts, is the cost of bilingual education and of educating students for whom English is a second language (not necessarily in a bilingual education program). The costs of such programs cannot be estimated from a household survey because they are incurred by schools, not parents. The source of data used in this report for modeling the added costs for language-assistance instruction is a now fairly outdated study by the Urban Institute (Clark, 1994). Updated information would be useful for sharpening estimates of education costs associated with immigration.

Beyond the survey data realm, another action that would be useful for generating fiscal projections would be for the Congressional Budget Office to make its budget projection engine public and give users the ability to experiment with different scenarios to see how changes affect estimated fiscal flows, tax rates, the size of the national debt, etc. For federal fiscal estimates, such as those produced in Chapter 8 of this report, this capability would have provided the opportunity to generate additional scenarios and to flesh out more exhaustively how reasonable each one appears. Achieving this is a complex proposition, but the capability would benefit research projects estimating future fiscal impacts of various policies—immigration related or otherwise.

Exploiting multiple data modes also has the potential to advance research on employment dynamics. To quantify the mobility of workers, or the extent to which displacement of pre-existing workers occurs, longitudinal data that “measure layoffs, unemployment spells, changes of residence and occupational and industrial mobility” are critical (Longhi et al., 2008, p. 25). Record linkages between surveys and detailed administrative records are now available to study firm and worker interactions and status changes. For the United States, the pioneering Longitudinal Employer-Household Dynamics Program¹³ has proven highly useful for analyzing how labor markets adapt to changing circumstances and, in so doing, has expanded opportunities for more sophisticated studies of employment effects associated with immigration inflows.¹⁴ In general, research in the United States has more frequently examined wage impacts than employment effects; European scholars have given more attention to analyzing employment impacts.¹⁵ Foged and Peri (2015) analyzed labor market outcomes of low-

¹³For details, go to <http://lehd.ces.census.gov/research>.

¹⁴Mouw et al. (2012) and Rho (2013) examined worker displacement in high immigration industries using evidence from the Longitudinal Employer-Household Dynamics Program.

¹⁵As reviewed in Chapter 5, there has been some work in the United States on employment impacts. Smith (2012) analyzed the impact of immigration on hours worked of low-skilled native-born workers and found that the largest negative effect was on teenagers.

skilled natives in response to an inflow of low-skilled immigrants using longitudinal employer-employee data from Denmark.

Another area in which multiple data sources could advance research on the impact of immigration on wages and employment is in measuring capital formation. As discussed in Chapter 5, the demand for labor and the capacity of the economy to absorb new workers, including immigrants, is strongly influenced by the speed at which firms invest and adjust their capital stock and production technologies. Assumptions are often made or implied about this process which, in certain kinds of models, strongly influence wage and employment impact estimates. At this point, there is little empirical basis for these assumptions because the temporal characteristics of how capital formation occurs in response to changing factors of production is an under-researched topic (Longhi et al., 2008, p. 25). Better microdata on investment and capital stock at industry and regional levels are needed and might be supplemented by a variety of non-survey-data sources such as firm administration records or commercial databases.

Long-term multisource data projects are also important for studying economic and social mobility—a topic that has recently gained heightened visibility among researchers, policy makers, and the general public. Concerns about growing income and wealth inequality and about the health of the “American dream” have spurred research into intergenerational issues, which often have even more acute implications for immigrants and their descendants. The *Integration* report points out that “matched individual-level records from Decennial Censuses (and the ACS) with income data from Internal Revenue Service and the Social Security Administration would allow for longitudinal studies of the socioeconomic progress of immigrants in American society and allow for the measurement of both intracohort change and intercohort change (for cohorts based on time of arrival in the United States) for successive waves of immigrants.” Additionally, “matched Census and USCIS records would allow for in-depth studies of pathways to legalization and also the impact of legal status on socioeconomic outcomes of individuals and their children”¹⁶ (National Academies of Sciences, Engineering, and Medicine, 2015, p. 431). This opportunity should be pursued:

¹⁶Similar data are collected in the French Permanent Demographic Sample (EDP), which is a pioneering longitudinal database maintained by the French National Institute of Statistics and Economic Studies, a central government agency located in Paris. The EDP is a panel survey based on immigrant arrival and census data that comprises a 1 percent sample of all immigrants that have entered France since 1967. The panel database includes information on immigrants at the time of arrival, linked to the General Population Census of 1968 and later censuses. It provides a rich database on the social and economic adjustment of immigrants over recent decades. A study by Richard (2013) provides an example of the usefulness of EDP data for studying labor outcomes.

Recommendation 6: The U.S. Census Bureau and U.S. Citizenship and Immigration Services should create a system that links administrative data to Census Bureau-administered surveys, including the Decennial Census, the American Community Survey, and the Survey of Income and Program Participation, following protocols that have recently been used to link Internal Revenue Service data to Census Bureau data and/or following protocols developed for the American Opportunity Study (National Research Council, 2013).¹⁷

The American Opportunity Study (AOS) is a new project, still under way, that takes as its goal to digitize and link data across Decennial Censuses, the ACS, and other administrative sources (such as Internal Revenue Service datasets) for the purpose of studying social mobility and related topics such as the following (Grusky et al., 2015):¹⁸

- Parent-child social mobility across a variety of dimensions (income, education, occupation) and with repeated measurements
- Social mobility within small geographic units
- Three-generation analyses (and beyond)
- Subgroup analyses (e.g., immigrants from specific countries or regions)
- Study of complex families (distinguishing social, biological, and financial parents)
- Intergenerational inheritance of program participation

A key topic motivating the AOS project is to improve the measurement of intergenerational changes in the immigrant population, ultimately improving the evidence base for policy.

Due to its high profile and its centrality among policy issues, research will continue on immigration regardless of whether the changes recommended in this chapter are implemented, and much of the focus of this research will be on the fiscal and economic consequences topics covered in this volume. However, initiatives such as the AOS and others that create a coordinated data infrastructure will, if successful, greatly enhance these

¹⁷This recommendation is replicated from the *Integration* report (National Academies of Sciences, Engineering, and Medicine, 2015 p. 431, Recommendation 10-5).

¹⁸The linkages across Census Bureau and administrative data will be designed to promote social, behavioral, and economic research in a way that creates savings on survey costs, improves data accuracy, and increases the ability to understand the long-term consequences of economic and social change. A longitudinal panel of the population, with identifiers for immigrants and later generations, could be constructed, and research using it could be conducted in restricted data environments such as the Census Bureau's Research Data Centers (National Academies of Sciences, Engineering, and Medicine, 2015).

research efforts. In this chapter, the panel has briefly identified next steps for pushing the knowledge frontier forward so that a report published 20 years from now will be able to present an even more comprehensive assessment of how immigration contributes to the economy and affects those engaged in its activities.

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Appendix

Biographical Sketches

PANEL MEMBERS

FRANCINE D. BLAU (*Chair*), Department of Economics, Cornell University, is a research associate at the National Bureau of Economic Research, a research fellow of the Institute for the Study of labor (IZA) and the Center for Economic Studies/Ifo Institute, and a research professor at the German Institute for Economic Research. She has written extensively on gender issues, immigration, wage inequality, and international comparisons of labor market outcomes. She was president of the Society of Labor Economists, the Midwest Economics Association, and the Labor and Employment Association; and vice president of the American Economic Association. She was editor of the *Journal of Labor Economics* and serves or has served on the editorial boards of the *American Economic Review*, *Journal of Economic Perspectives*, *Journal of Labor Economics*, *Labour Economics*, and *Industrial and Labor Relations Review*, among others. She is a fellow of the Society of Labor Economists, American Academy of Political and Social Science, and Labor and Employment Relations Association. She received the Carolyn Shaw Bell Award in 2001 from the American Economic Association and the IZA Prize in 2010 for outstanding achievement in labor economics. She has a B.S. in industrial and labor relations from Cornell University, and an M.A. and a Ph.D. in economics from Harvard University.

MICHAEL BEN-GAD is professor of economics at City, University of London, and has served as head of the Department of Economics. He has worked in the research department of the Bank of Israel and was a faculty

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GEORGE J. BORJAS is Robert W. Scrivner professor of economics and social policy in the John F. Kennedy School of Government at Harvard University, research associate at the National Bureau of Economic Research, research fellow at IZA, and an elected fellow of the Society of Labor Economists. His teaching and research interests focus on the impact of government regulations on labor markets, with an emphasis on the economic impact of immigration. His academic work provides a theoretical and empirical framework for analyzing the welfare effects and distributional consequences of immigration. He has authored numerous books as well as articles in peer-reviewed journals. He is an editor for the *Journal on Human Capital* and *The International Migration Review*. He has a B.S. in economics and mathematics from St. Peter's College, and an M.A., an M.Phil., and a Ph.D. in economics from Columbia University.

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BARRY EDMONSTON is research professor in the Department of Soci-

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JENNIFER HUNT is James Cullen professor of economics in the Department of Economics at Rutgers University. During 2013-2015, she served as deputy assistant secretary for microeconomic analysis in the Office of Economic Policy, U.S. Department of the Treasury, and as chief economist at the U.S. Department of Labor. Before joining Rutgers in 2011, she held positions at McGill University, the University of Montreal, and Yale University. Dr. Hunt is a research associate at the National Bureau of Economic Research, research fellow at the Centre for Economic Policy Research, and research fellow at IZA. She is co-editor of the *Journal of Human Resources* and associate editor of the *Journal of Labor Economics*. She has conducted research in the areas of employment and unemployment policy, immigration, wage inequality, the transition from communism, crime, and corruption. Her current research focuses on immigration and innovation in the United States, the U.S. science and engineering workforce, and wage inequality. Dr. Hunt has an S.B. in electrical engineering from the Massachusetts Institute of Technology, and a Ph.D. in economics from Harvard University.

DOWELL MYERS is professor of policy, planning, and demography in the Sol Price School of Public Policy at the University of Southern California, where he also directs the Population Dynamics Research Group. He is a member of the American Planning Association, American Sociological Association, Population Association of American, and the American Real Estate and Urban Economics Association. His research approach of integrated demography treats demographic factors as interwoven with aggregate behaviors and impacts, including public perceptions and reactions to demographic change. Recent research has focused on public narratives about immigration, aging, and taxation; projections of generational change in the United States, California, and Los Angeles; and the upward mobility of immigrants with duration of U.S. residence. He was an advisor to the Census Bureau, an academic fellow of the Urban Land Institute, and a member of the Governing Board of the Association of Collegiate Schools

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PIA ORRENIUS is vice president and senior economist in the research department at the Federal Reserve Bank of Dallas, where she manages the regional economy group. She is executive editor of *Southwest Economy* and works primarily on regional economic growth and demographic change. She co-edited *Ten Gallon Economy: Sizing up Texas' Economic Growth* (2015), co-wrote *Beside the Golden Door: Immigration Reform in a New Era of Globalization* (2010) and has published extensively on the labor market impacts of immigration, unauthorized immigration, and U.S. immigration policy. She is a research fellow at the Tower Center for Political Studies at Southern Methodist University and at IZA, an adjunct scholar at the American Enterprise Institute in Washington, D.C., and adjunct professor at Baylor University (Dallas campus), where she teaches in the executive MBA program. She was senior economist on the Council of Economic Advisers in the Executive Office of the President, Washington, D.C., in 2004-2005, advising the Bush administration on labor, health, and immigration issues. She holds a Ph.D. in economics from the University of California, Los Angeles, and bachelor's degrees in economics and Spanish from the University of Illinois at Urbana-Champaign.

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COMMITTEE ON NATIONAL STATISTICS

The Committee on National Statistics was established in 1972 at the National Academies of Sciences, Engineering, and Medicine to improve the statistical methods and information on which public policy decisions are based. The committee carries out studies, workshops, and other activities to foster better measures and fuller understanding of the economy, the environment, public health, crime, education, immigration, poverty, welfare, and other public policy issues. It also evaluates ongoing statistical programs and tracks the statistical policy and coordinating activities of the federal government, serving a unique role at the intersection of statistics and public policy. The committee's work is supported by a consortium of federal agencies through a National Science Foundation grant, a National Agricultural Statistics Service cooperative agreement, and several individual contracts.

AR2022_502183



Deferred Action for Childhood Arrivals | Federal Policy and Examples of State Actions

4/16/2020



In 2012, the U.S. Department of Homeland Security (DHS) issued the Deferred Action for Childhood Arrivals (DACA) policy to allow young unauthorized immigrants who are low enforcement priorities to remain in the country with temporary lawful status.

On Sept. 5, 2017, DHS issued a memorandum rescinding the DACA program. Three district courts enjoined the Administration's effort and allowed DACA recipients to apply for renewal. In 2019, the U.S. Supreme Court agreed to hear the case and oral arguments were presented November 12. A ruling is expected by June 2020.

The U.S. House of Representatives passed the American Dream and Promise Act of 2019 (H.R. 6) on June 4, 2019. HR6 would allow DACA recipients to gain lawful permanent residence.

An estimated 652,880 immigrant youth have DACA status. State by state estimates by the Migration Policy Institute can be found [here](#).

For more information, see the DHS FAQ and fact sheet.

Background

In 2012, DHS issued the Deferred Action for Childhood Arrivals (DACA) policy to allow young unauthorized immigrants who are low enforcement priorities to remain in the country with temporary lawful status. A person who receives deferred action is considered to be lawfully present and may apply for work authorization. Deferred action is permitted for a renewable period of two years but it does not grant legal immigration status nor a pathway to citizenship. Deferred action under DACA may be terminated if the recipient engages in criminal activity, leaves the country without advanced parole, or if the program is repealed.

On Sept. 5, 2017, the U.S. Department of Homeland Security (DHS) issued a memorandum rescinding the DACA program.

AR2022_502184

On Jan. 9, 2018, a U.S. district judge ordered that DACA recipients be allowed to continue submitting renewal applications pending final decision on the litigation. DHS has resumed processing renewal applications. New DACA applications are not permitted. Pending applications will be adjudicated on a case by case basis. Deferred action status and employment authorization documents will continue to be valid for two years from date of issuance.

U.S. Citizenship and Immigration Services (USCIS) has accepted applications from individuals residing in all 50 states, the District of Columbia, and U.S. territories including Puerto Rico, Guam and the Virgin Islands. The top 10 states of residence are California, Texas, New York, Florida, Illinois, New Jersey, Georgia, North Carolina, Arizona and Washington.

There are more than 25 different countries of origin, with the top 10 countries of origin being Mexico, El Salvador, Guatemala, Honduras, South Korea, Peru, Brazil, Ecuador, Colombia and the Philippines. As of September 30, 2019, USCIS has granted deferred status to 2,508,958 people under DACA.

Eligibility Requirements

The person must:

- Have entered the country before the age of 16 and be under the age of 31 on June 15, 2012.
- Have continuously resided in the U.S. since June 15, 2007.
- Be at least 15 years of age and be in school, have graduated high school, received a GED or have been honorably discharged from military service.

The individual must not:

- Have been convicted of a felony offense, a significant misdemeanor nor multiple misdemeanor offenses. Examples of significant misdemeanor offenses include violence, threats or assaults; burglary; obstruction of justice or bribery; driving under the influence; unlawful possession or use of a firearm; or unlawful possession of drugs.

Exemptions to eligibility requirements and application fee requirements:

- If an individual who is younger than 15 years of age is in the process of removal, has an order of removal or a voluntary departure order, and is not presently in an immigration detention, then the individual may be exempt from the age requirement criteria.
- If an individual is under the age of 18 and is homeless or makes less than 150 percent of the U.S. poverty level and is in foster care or otherwise lacks familial support, then the individual may file to receive a fee exemption.
- If an individual is not economically independent due to a serious illness and an income amounting to less than 150 percent of the U.S. poverty level or has a debt totaling more than \$10,000 due to medical expenses for the individual or an immediate family member and has an income amounting to less than 150 percent of the U.S. poverty level, then the individual may file to receive a fee exemption.

State Responses

After DACA's implementation, many states considered whether to provide or deny state benefits such as driver's licenses or in-state tuition to noncitizens, including people granted deferred action.

Driver's Licenses

Before DACA, three states—New Mexico, Utah and Washington—issued driver's licenses or driving privilege cards to unauthorized immigrants. After DACA, California was the first to act to allow deferred action recipients to be issued driver's licenses. All states now issue driver's licenses to DACA recipients. Currently, 15 states and the District of Columbia allow unauthorized immigrants to obtain a driver's license. These states—California, Colorado, Connecticut, Delaware, Hawaii, Illinois, Maryland, New Jersey, New Mexico, New York, Nevada, Oregon, Utah, Vermont and Washington—issue a license if an applicant provides certain documentation, such as a foreign birth certificate, a foreign passport, or a consular card and evidence of current residency in the state.

In-State Tuition Bills

Sixteen states and the District of Columbia offer in-state tuition to unauthorized immigrant students by state legislative action and seven states by state university systems. Sixteen state legislatures—California, Colorado, Connecticut, Florida, Illinois, Kansas, Maryland, Minnesota, Nebraska, New Jersey, New Mexico, New York, Oregon, Texas, Utah and Washington—and the District of Columbia enacted laws to allow in-state tuition benefits for certain unauthorized immigrant students. At least seven state university systems—in Hawaii, Kentucky, Maine, Michigan, Ohio, Oklahoma and Rhode Island—established policies to offer in-state tuition rates to unauthorized immigrant students.

In 2018, Connecticut, Maryland, New Jersey, Oregon and Washington enacted laws allowing certain immigrant students, such as students with Deferred Action for Childhood Arrivals (DACA), to be eligible for financial aid. In 2019, Arkansas allowed DACA students or those with federal work permits to receive in-state tuition.

At least eleven states—California, Connecticut, Hawaii, Maryland, Minnesota, New Jersey, New Mexico, New York, Oregon, Texas and Washington—and the District of Columbia offer state-funded financial aid to unauthorized immigrant students. In April 2014, the Virginia attorney general advised that Virginia students who are lawfully present in the United States under the DACA program qualify for in-state tuition. Two states prohibit undocumented students from enrolling in public higher-education institutions – Alabama and South Carolina. However, these states allow DACA recipients to enroll in public colleges and universities and some institutions in Alabama allow DACA recipients to receive in-state tuition rate. The State Board of Regents in Georgia prohibits certain institutions from admitting undocumented students.

Health Care

DACA recipients are ineligible for most forms of government health care assistance including the Children's Health Insurance Program, Medicaid, and tax credits under the Affordable Care Act. Some states, such as California, Illinois, Massachusetts, New York, Oregon, Washington state and Washington, D.C., have opted to fund health insurance to all children regardless of immigration status.

State Professional Licenses

The requirements to obtain a professional license vary from state to state. Fifteen states—Arkansas, California, Florida, Illinois, Maine, Minnesota, Nebraska, Nevada, New Jersey, New York, Oregon, South Dakota, Utah, West Virginia and Wyoming—have enacted legislation to provide or improve professional licenses for certain populations, such as DACA recipients, legal immigrants and/or unauthorized immigrants.

Arkansas authorized the State Board of Nursing to license recipients of the Deferred Action for Childhood Arrivals (DACA) program and added a medical fellowship as a method for a foreign medical graduate to obtain a license to practice medicine. California passed legislation allowing qualified applicants could be admitted to the state bar regardless of their immigration status. California also enacted a measure allowing about 40 state boards to accept a federal taxpayer identification number as proof of identification in lieu of a Social Security number when considering applications. Florida enacted legislation permitting the Supreme Court to admit certain unauthorized immigrant students to practice law if they received employment authorization from the federal government, a Social Security number, and fulfilled all state requirements. Maine repealed a residency provision for applicants and a character reference requirement for foreign-trained applicants. Minnesota created the Foreign-Trained Physician Task Force to address barriers to practice and facilitate pathways to assist immigrant international medical graduates to integrate into the Minnesota health care delivery system. Nebraska allows professional or commercial licenses to DACA recipients. The New York Board of Regents allows eligible DACA recipients to receive a professional license and some teacher certifications. California, Illinois and Nevada prohibit the denial of an occupational or professional license based solely on the applicant's citizenship or immigration status. New Jersey established a pilot program for licensing those with a barber's license from another state or foreign country. Maine, Oregon and Washington support studies on how immigrants or refugees become licensed and to reduce barriers for them. Nevada allows licensing for foreign teachers, South Dakota for dentists, and Utah for occupational therapists. West Virginia allows permits for exchange teachers from foreign countries. Wyoming repealed a requirement for a bar applicant to be a U.S. citizen.

In 2018, Colorado adopted a resolution that recognized "Dreamers" losing their work authorization would have far-reaching job-loss consequences for all Americans.

Deferred Action Timeline

June 15, 2012 – The DACA program is created by DHS memorandum.

Aug. 15, 2012 – Individuals begin filing DACA applications with USCIS.

Nov. 20, 2014 – The Deferred Action for Parents of Americans (DAPA) program and the DACA expansion is announced.

Dec. 03, 2014 – Texas v. United States is filed by 22 states: Texas, Alabama, Arkansas, Arizona, Florida, Georgia, Idaho, Indiana, Kansas, Louisiana, Montana, Nebraska, Nevada, North Dakota, Ohio, Oklahoma, South Carolina, South Dakota, Tennessee, Utah, West Virginia, Wisconsin and by five politicians from Idaho, Maine, Michigan, Mississippi and North Carolina.

Feb. 16, 2015 – The U.S. District Court for the Southern District of Texas grants a preliminary injunction, blocking the implementation of DAPA and the expanded DACA.

Mar. 12 2015 – The Department of Justice (DOJ) files an appeal to the U.S. Court of Appeals for the Fifth Circuit to lift the implementation block.

Nov. 9, 2015 – The U.S. District Court of Appeals for the Fifth Circuit affirmed the lower court's decision to grant the preliminary injunction.

Jan. 19 2016 – The U.S. Supreme Court agrees to hear *United States v. Texas*

June 15 2017 – DHS announces the rescission of the DAPA program.

Jun 23 2016 – The U.S. Supreme Court arrives at a 4-4 decision, leaving the Fifth Circuit's decision in place.

June 29, 2017 – Texas and 9 states request Attorney General Jeff Sessions to repeal the DACA program by September 5, 2017.

July 21, 2017 – California and 18 states plus the District of Columbia wrote a letter to the president requesting continuation of DACA.

Sept. 5, 2017 - DHS officially rescinds DACA by memorandum with a six month phase out.

Sept. 6, 2017 - New York and 14 states plus the District of Columbia file a lawsuit seeking a halt to the rescission of DACA.

Jan. 9, 2018 – A San Francisco-based U.S. District Court judge ordered the administration to resume accepting renewal applications for DACA

Feb. 26, 2018 – The Supreme Court declines to take up an immediate appeal of court decisions resuming DACA renewals

April 24, 2018 – A federal judge ruled that DACA must stay in place and DHS must accept new and renewal applications

June 28, 2019 – The Supreme Court decides to consolidate three petitions related to DACA Department of Homeland Security v. Regents of the University of California (Docket 18-587), Trump v. NAACP (Docket 18-588), and McAleenan v. Vidal (Docket 18-589)

November 12, 2019 – The Supreme Court hears oral arguments on the cases (transcript)

June 2020 – The Supreme Court is expected to deliver its decision

DACA Approved Applications

U.S. Citizenship and Immigration Services DACA application report (state by state breakdown on Page five of PDF)

Migration Policy Institute DACA Interactive Map

Additional Resources

NCSL Resources

The NCSL Blog: Supreme Court to Review DACA

NCSL's database on state immigration laws

NCSL Immigrant Policy Project Website

NCSL's brief on In-state Tuition and Unauthorized Immigrant Students

NCSL's brief on Professional and Occupational Licenses for Immigrants

Other Resources

U.S. Citizenship and Immigration Services FAQ on Deferred Action

U.S. Citizenship and Immigration Services DACA application statistics

U.S. Department of Homeland Security memo

MPI DACA Data Tools

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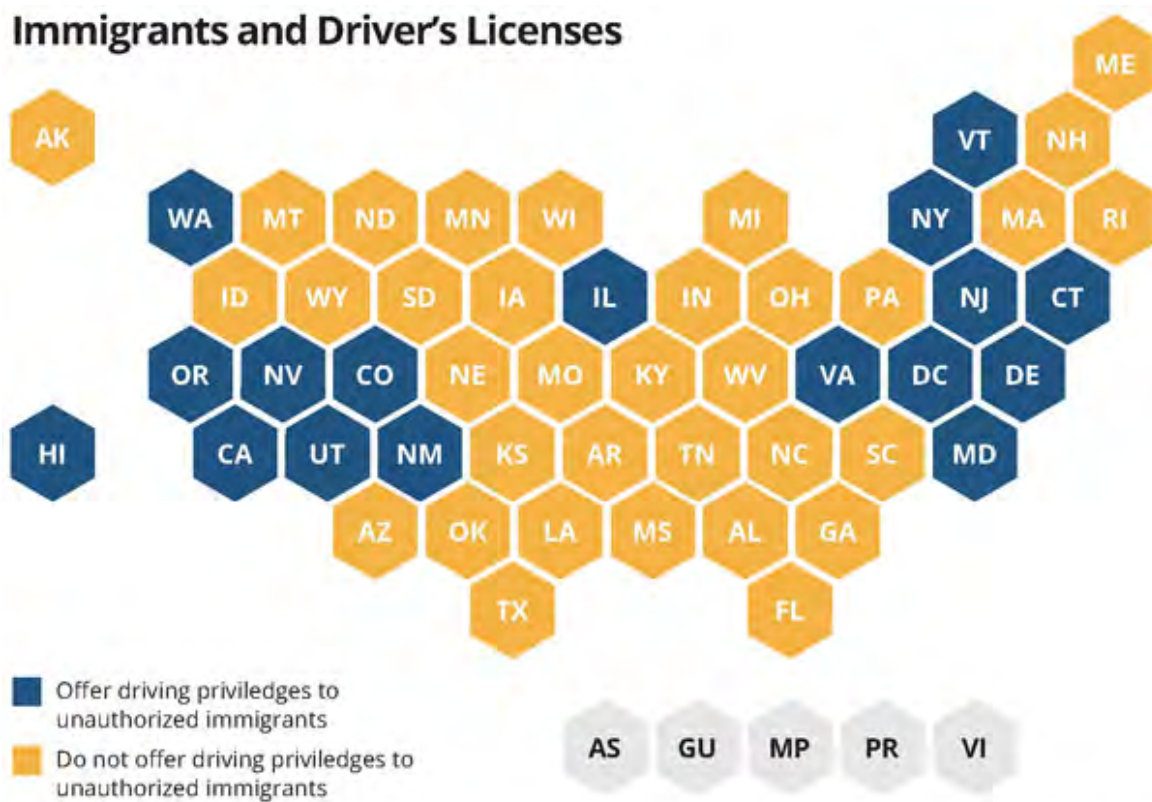
States Offering Driver's Licenses to Immigrants

8/9/2021

States issue driver's licenses under the constitutional authority of the 10th Amendment. Congress enacted Real ID in 2005, creating standards for state-issued driver's licenses, including evidence of lawful status. This brief provides a summary of state legislation authorizing driver's licenses or authorization cards for unauthorized immigrants (not to be used for federal identification purposes).

Sixteen states and the District of Columbia have enacted laws to allow unauthorized immigrants to obtain driver's licenses. These states—California, Colorado, Connecticut, Delaware, Hawaii, Illinois, Maryland, Nevada, New Jersey, New Mexico, New York, Oregon, Utah, Vermont, Virginia and Washington—issue a license if an applicant provides certain documentation, such as a foreign birth certificate, foreign passport, or consular card and evidence of current residency in the state.

Immigrants and Driver's Licenses



In 2020, Virginia became the most recent state to enact legislation extending driver's licenses and identification cards to those without proof of lawful presence (HB 1211).

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Enacted Legislation

State	Bill	Year Enacted	Summary	Effective Date
California	A 60	2013	This law requires the Department of Motor Vehicles to issue driver's licenses to individuals who are ineligible for a Social Security number, if the required documentation is provided.	Jan. 1, 2015
Colorado	S 251	2013	This law allows individuals to qualify for a driver's license, instruction permit or identification card, despite the individual not being lawfully present or being only temporarily lawfully present in the United States if certain conditions are met, such as providing state tax returns.	Aug. 1, 2014
Connecticut	H 6495	2013	This law provides driver's licenses to applicants who submit a valid foreign passport or consular identification and proof of residency, regardless of legal presence in the United States. Applicants must file to legalize as soon as he or she is eligible	Jan. 1, 2015
Delaware	S 59	2015	This law creates the means for an undocumented immigrant to obtain a driving privilege card in Delaware. A driving privilege card or permit applicant must provide the state with satisfactory documentary evidence and that the applicant has filed a Delaware income tax return or resided in Delaware and been claimed as a dependent by an individual who has filed a state income tax return for the preceding two years. The card is not considered a valid form of identification due to the applicant's inability to prove legal presence in the U.S.	Dec. 27, 2015
Hawaii	H 1007	2015	This law authorizes the issuance of driver's licenses to residents of Hawaii who cannot provide proof of authorized presence in the United States. Applicants must provide satisfactory proof of identity and Hawaii residency.	Jan. 1, 2016
Illinois	S 957	2012	This law allows the Secretary of State to issue a temporary visitor's driver's license to an individual who has resided in Illinois for a specified time but is ineligible to obtain a Social Security number, and unable to prove lawful presence. A valid, unexpired foreign passport or consular identification document from their country of citizenship are acceptable forms of identification.	Nov. 28, 2013
Maryland	S 715	2013	This law authorizes the issuance of driver's licenses to those who do not have lawful status or a valid Social Security number. New applicants must provide evidence that the applicant has filed two years of Maryland income tax returns or proof of residency or have been claimed as a dependent by an individual who has filed Maryland income tax returns. The licenses are not valid for Federal identification purposes.	Jan. 1, 2014
New Jersey	A4743	2019	This law creates a standard driver's license or identification that does not require proof of lawful presence. The law prohibits the motor vehicle commission from disclosing information to any federal, state or local law enforcement agency for immigration purposes without the consent of the individual, a warrant, court order or subpoena, unless such restriction is contrary to federal law. The commission may not retain copies of documents submitted to establish eligibility for a license or identification card.	June 1, 2020

State	Bill	Year Enacted	Summary	Effective Date
New Mexico	H 173	2003	This law allows the Department of Motor Vehicles to accept tax identification numbers as a substitute for a Social Security number regardless of immigration status.	2003
New York	S 1747	2019	This law authorizes the Department of Motor Vehicles to issue standard drivers' licenses and restricts what information can be retained and given out on those applying or holding licenses.	June 17, 2019
New York	A3675	2019	This legislation allows for the issuance of a driver's license to undocumented residents and protects the data of those applying for such privilege from unwarranted release. The Department of Motor Vehicles may not disclose records to any agency that primarily enforces immigration law without a lawful court order or judicial warrant. The law requires that any person or entity that has access to information from the department to certify that the information will not be used for civil immigration purposes. Application forms for non-commercial drivers' licenses and learners' permits which do not meet federal standards for identification may not state: the documents an applicant used to prove age or identity; an applicant's ineligibility for a social security number where applicable; or an applicant's citizenship or immigration status. A non-commercial driver's license or learner's permit which does not meet federal standards for identification may not be used as evidence of a person's citizenship or immigration status, and may not be the basis for investigating, arresting, or detaining a person. Such licenses must be visually identical to federal-purpose driver's licenses except that such licenses may state "Not for Federal Purposes".	Dec. 14, 2019
Nevada	S 303	2013	This law creates a driver's authorization card and allows applicants, regardless of legal status, to provide birth certificates or passports issued by a foreign country as proof of identity. This law also prohibits the release of information relating to legal status for purposes relating to the enforcement of immigration laws.	Jan. 1, 2014
Oregon	H2015	2019	This law eliminates the requirement that a person provide proof of legal presence before the Department of Transportation issues a noncommercial driver license, noncommercial driver permit or identification card. Acceptable documents to prove identity, date of birth or address when a person is applying for a driver license, driver permit or identification card that is not a Real ID, a commercial driver license, or a commercial learner driver permit, include: (a) An unexpired valid passport from the person's country of citizenship; (b) An unexpired valid consular identification document issued by the consulate of the person's country of citizenship; (c) A driver license, driver permit or identification card issued by Oregon that expired less than 13 years before the current application; or (d) A driver license, driver permit or identification card issued by another state that is unexpired or expired less than a year before the current application.	Aug. 9, 2019

State	Bill	Year Enacted	Summary	Effective Date
Utah	S 227	2005	This law establishes a one-year driving privilege card for unauthorized immigrants. Applicants without a Social Security number must prove Utah residency for six months and provide a tax identification number. The card is expressly prohibited from being used for any identification purposes by a governmental entity.	March 8, 2005
Vermont	S 38	2013	This law allows those Vermont residents unable to establish lawful presence in the United States to be eligible for a motor vehicle operator's privilege card or alternate identification card.	Jan. 1, 2014
Virginia	HB 1211/SB 34	2020	This law creates a driving privilege card or permit for applicants who do not meet the requirements for a driver's license or permit. The applicant must have reported income and deductions from Virginia sources, or been claimed as a dependent, on an individual income tax return filed in the preceding 12 months and may not be in violation of the insurance requirements. Applicants may not be required to present proof of legal presence in the United States. A driver privilege card or permit will expire on the applicant's second birthday following the date of issuance. The front of a driver privilege card or permit must be identical in appearance to a driver's license or permit that is not a REAL ID credential and the back of the card or permit must be identical in appearance to the restriction on the back of a limited-duration license, permit or special identification card.	Jan. 1, 2021
Washington	H 1444	1993	This law allows drivers license applicants without Social Security numbers to provide alternate documentation to show proof of residence in the state of Washington such as home utility bills and tax identification numbers.	July 25, 1993
District of Columbia	B 275	2013	This law creates a limited purpose driver's license, permit, or identification card for a District resident who has not been assigned a Social Security number or cannot establish legal presence in the United States.	May 1, 2014

Source: NCSL Immigrant Policy Project

Additional Resources

- NCSL Real ID
- NCSL LegisBrief: Immigration Reform and State Trends
- NCSL Immigration Policy Project
- NCSL Immigration Database

NFIB

SMALL BUSINESS

ECONOMIC

TRENDS

William C. Dunkelberg
Holly Wade

SMALL BUSINESS OPTIMISM INDEX COMPONENTS

Index Component	Seasonally Adjusted Level	Change from Last Month	Contribution to Index Change
Plans to Increase Employment	23%	2	*
Plans to Make Capital Outlays	24%	-1	*
Plans to Increase Inventories	0%	-4	*
Expect Economy to Improve	-44%	-2	*
Expect Real Sales Higher	-10%	9	*
Current Inventory (too low)	1%	-2	*
Current Job Openings	46%	-3	*
Expected Credit Conditions	-6%	2	*
Now a Good Time to Expand	6%	1	*
Earnings Trends	-31%	2	*
Total Change		4	

Based on a Survey of Small and Independent Business Owners

NFIB
SMALL BUSINESS
ECONOMIC TRENDS

NFIB Research Center has collected Small Business Economic Trends Data with Quarterly surveys since 1973 and monthly surveys since 1986. The sample is drawn from the membership files of the National Federation of Independent Business (NFIB). Each was mailed a questionnaire and one reminder. Subscriptions for twelve monthly SBET issues are \$250. Historical and unadjusted data are available, along with a copy of the questionnaire, from the NFIB Research Center. You may reproduce Small Business Economic Trends items if you cite the publication name and date and note it is a copyright of the NFIB Research Center. © NFIB Research Center. ISBS #0940791-24-2. Chief Economist William C. Dunkelberg and Executive Director of the NFIB Research Center Holly Wade are responsible for the report.

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SUMMARY

OPTIMISM INDEX

The Optimism Index rose 0.3 points in September to 92.1. This is the ninth consecutive month below the 48-year average of 98. Of the 10 index components, 5 increased, 5 decreased, and 0 were unchanged. Thirty percent of owners reported that inflation was their single most important problem in operating their business. Owners expecting better business conditions over the next six months decreased 2 points from September to a net negative 44 percent. Forty-six percent of owners reported job openings that were hard to fill, down 3 points from August. The net percent of owners raising average selling prices decreased 2 points to a net 51 percent seasonally adjusted. The net percent of owners who expect real sales to be higher increased 9 points from August to a net negative 10 percent. The Uncertainty Index decreased 2 points from last month to 72.

LABOR MARKETS

Forty-six percent (seasonally adjusted) of all owners reported job openings they could not fill in the current period, down 3 points from August. Forty-two percent have openings for skilled workers (up 1 point) and 22 percent have openings for unskilled labor (down 2 points). The difficulty in filling open positions is particularly acute in the transportation, manufacturing, and construction sectors. Openings are lowest in the finance and agriculture sectors. Overall, however, the current level of openings is over 20 percentage points higher than the historical average for Main Street firms. Owners' plans to fill open positions remain elevated, with a seasonally adjusted net 23 percent planning to create new jobs in the next three months (up 2 points). Fifty-seven percent (89 percent of those hiring or trying to hire) of owners reported few or no qualified applicants for the positions they were trying to fill (unchanged). Twenty-seven percent of owners reported few qualified applicants for their open positions (down 4 points) and 30 percent reported none (up 4 points, and a 48-year record high reading).

CAPITAL SPENDING

Fifty-six percent reported capital outlays in the last six months, up 4 points from August. Of those making expenditures, 40 percent reported spending on new equipment (up 4 points), 22 percent acquired vehicles (up 4 points), and 16 percent improved or expanded facilities (up 2 points). Nine percent spent money for new fixtures and furniture (down 4 points) and 6 percent acquired new buildings or land for expansion (unchanged). Twenty-four percent plan capital outlays in the next few months, down 1 point from August. A more positive view of the future economy and economic policy would help stimulate longer term investment spending, but currently, owners' views about the future are not supportive. Investment is needed to address labor supply chain problems in the current environment. In addition, Federal Reserve actions will continue to raise interest rates, increasing the cost of financing capital projects and reducing the expected gains from investments.

SALES AND INVENTORIES

A net negative 5 percent of all owners (seasonally adjusted) reported higher nominal sales in the past three months, up 3 points from August. The net percent of owners expecting higher real sales volumes improved by 9 points to a net negative 10 percent. The net percent of owners reporting inventory increases improved 4 points to a negative 2 percent. Not seasonally adjusted, 16 percent reported increases in stocks and 17 percent reported reductions. Thirty-two percent of owners recently reported that supply chain disruptions have had a significant impact on their business. Another 34 percent report a moderate impact and 22 percent report a mild impact. Only 10 percent report no impact. A net 1 percent of owners viewed current inventory stocks as “too low” in September, down 2 points from August. By industry, shortages are reported most frequently in transportation (21%), agriculture (20%), retail (19%), wholesale (18%), and manufacturing (14%). A net 0 percent of owners plan inventory investment in the coming months down 4 points from August.

COMPENSATION AND EARNINGS

Seasonally adjusted, a net 45 percent reported raising compensation, down 1 point from August. A net 23 percent plan to raise compensation in the next three months, down 3 points from August. Ten percent cited labor costs as their top business problem, unchanged from August, and 22 percent said that labor quality was their top business problem (down 4 points). Labor quality remains in second place behind “inflation” by 8 points. The frequency of reports of positive profit trends was a net negative 31 percent, up 2 points from August. Among owners reporting lower profits, 42 percent blamed the rise in the cost of materials, 21 percent blamed weaker sales, 12 percent cited labor costs, 8 percent cited lower prices, 6 percent cited the usual seasonal change, and 3 percent cited higher taxes or regulatory costs.

CREDIT MARKETS

Two percent of owners reported that all their borrowing needs were not satisfied (down 2 points). Twenty-six percent reported all credit needs met (up 3 points) and 62 percent said they were not interested in a loan (up 2 points). A net 5 percent reported their last loan was harder to get than in previous attempts (down 1 point). One percent reported that financing was their top business problem (unchanged). A net 22 percent of owners reported paying a higher rate on their most recent loan, up 1 point from August. The average rate paid on short maturity loans was 6.7 percent. Twenty-six percent of all owners reported borrowing on a regular basis (down 1 point).

INFLATION

The net percent of owners raising average selling prices decreased 2 points from August to a net 51 percent seasonally adjusted. Unadjusted, 9 percent (up 1 point) reported lower average selling prices and 59 percent (down 1 point) reported higher average prices. Price hikes were most frequent in retail (73 percent higher, 11 percent lower), construction (69 percent higher, 3 percent lower), transportation (68 percent higher, 5 percent lower), and wholesale (64 percent higher, 0 percent lower). Seasonally adjusted, a net 31 percent plan price hikes (down 1 point).

COMMENTARY

Inflation is proving to be anything but “temporary”. Oil (gas, etc.) prices have fallen but not much else. The percent of firms on Main Street reporting higher selling prices remained very high, car dealers, grocery stores, restaurants, all raising prices, not just the Dow Jones firms. Services are leading the way.

Compensation is still rising steadily but not nearly as fast as inflation, so “real” wages are falling and so is the value of assets like savings accounts and 401k holdings. Having inflation return to 2% will not restore this wealth loss. Only a period of falling prices (and wages) can do this and that would require a lot more than a soft landing.

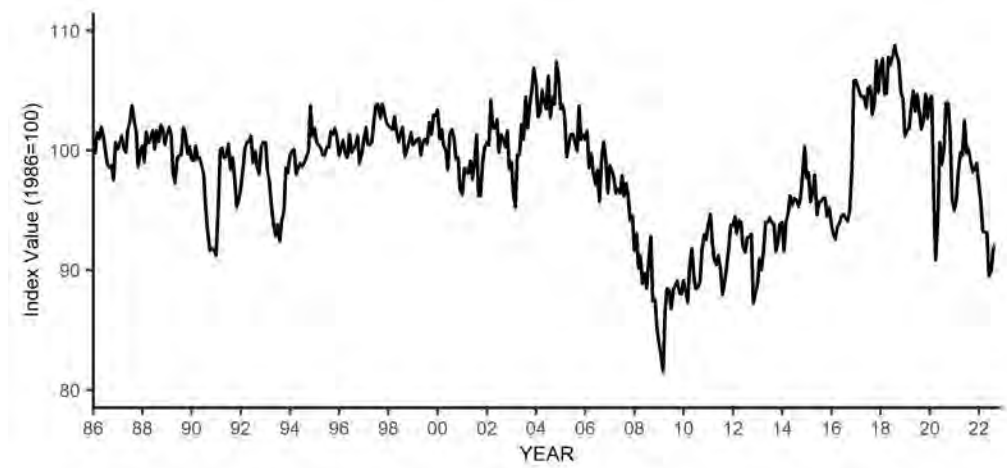
Many observers feel that to stomp out inflation now, interest rates must exceed the inflation rate (real interest rates above zero). That would require more large Fed rate hikes even if inflation rates start falling to meet rising Fed rates. Mortgage rates have more than doubled, already slowing home sales and new construction. And the resulting strong dollar has reduced demand for our exports. It will be a painful but unavoidable process.

The Administration remains focused on climate change (the real content of the Inflation Reduction Act), student loans, and campaigning, nothing helpful for small businesses.

OVERVIEW - SMALL BUSINESS OPTIMISM

OPTIMISM INDEX

Based on Ten Survey Indicators
(Seasonally Adjusted 1986=100)



OPTIMISM INDEX

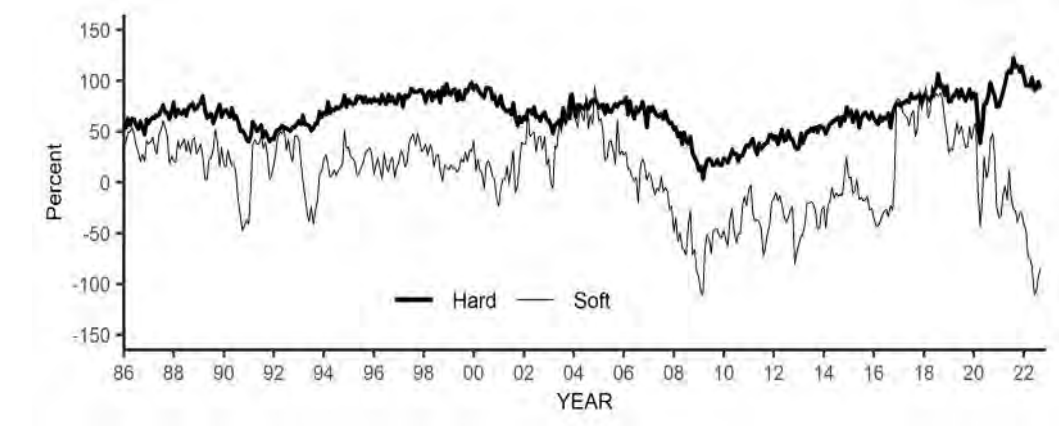
Based on Ten Survey Indicators
(Seasonally Adjusted 1986=100)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	105.9	105.3	104.7	104.5	104.5	103.6	105.2	105.3	103.0	103.8	107.5	104.9
2018	106.9	107.6	104.7	104.8	107.8	107.2	107.9	108.8	107.9	107.4	104.8	104.4
2019	101.2	101.7	101.8	103.5	105.0	103.3	104.7	103.1	101.8	102.4	104.7	102.7
2020	104.3	104.5	96.4	90.9	94.4	100.6	98.8	100.2	104.0	104.0	101.4	95.9
2021	95.0	95.8	98.2	99.8	99.6	102.5	99.7	100.1	99.1	98.2	98.4	98.9
2022	97.1	95.7	93.2	93.2	93.1	89.5	89.9	91.8	92.1			

OPTIMISM INDEX COMPONENTS

Hard: Job Creation Plans, Job Openings, Inventory Plans, Earnings, Capital Expenditure Plans

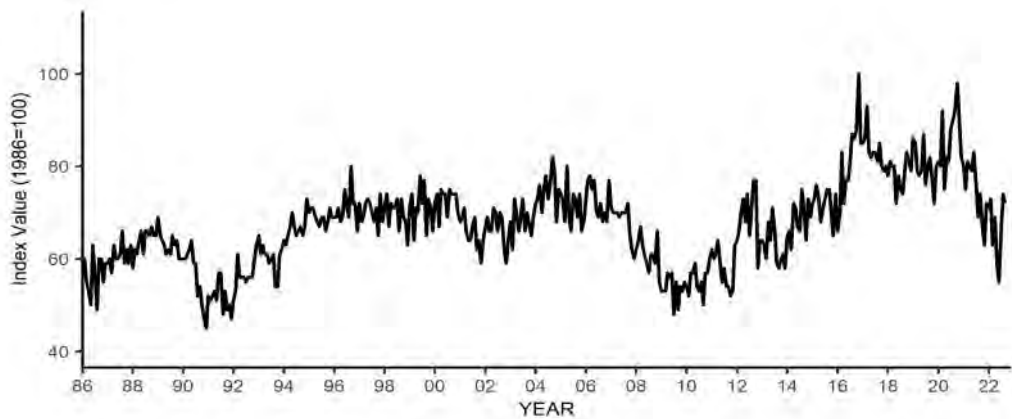
Soft: Expected Business Conditions, Outlook for Expansion, Expected Real Sales, Expected Credit Conditions, Inventory Satisfaction



SMALL BUSINESS UNCERTAINTY

UNCERTAINTY INDEX

Sum of "Don't Know" & "Uncertain" Answers on 6 Questions
(Seasonally Adjusted 1986=100)



UNCERTAINTY INDEX

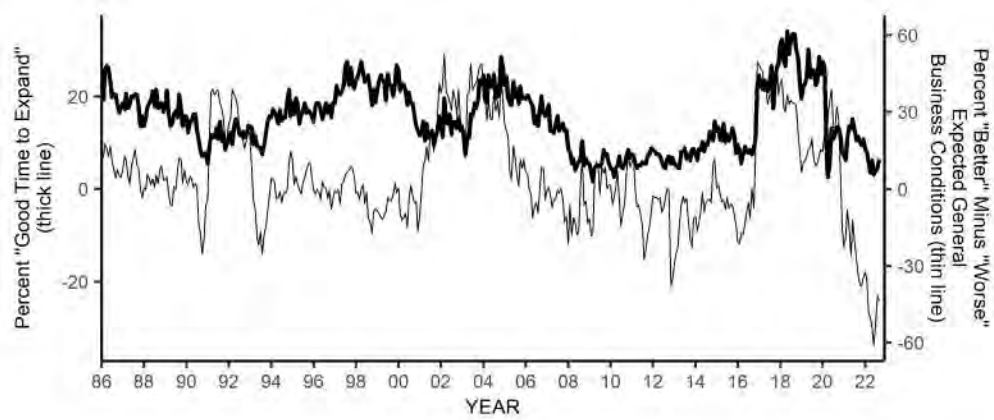
Based on Ten Survey Indicators
(Seasonally Adjusted 1986=100)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	85	86	93	83	82	83	83	81	85	80	79	80
2018	78	81	80	80	72	78	75	74	79	83	81	79
2019	86	85	79	78	79	87	76	80	82	78	72	80
2020	81	80	92	75	82	81	88	90	92	98	90	82
2021	80	75	81	80	79	83	76	69	74	67	63	72
2022	71	73	63	69	59	55	67	74	72			

SMALL BUSINESS OUTLOOK

OUTLOOK

Good Time to Expand and Expected General Business Conditions
January 1986 to September 2022
(Seasonally Adjusted)



SMALL BUSINESS OUTLOOK (CONTINUED)

OUTLOOK FOR EXPANSION

Percent Next Three Months "Good Time to Expand"
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	25	22	22	24	23	21	23	27	17	23	27	27
2018	32	32	28	27	34	29	32	34	33	30	29	24
2019	20	22	23	25	30	24	26	26	22	23	29	25
2020	28	26	13	3	5	13	11	12	13	13	12	8
2021	8	6	11	14	13	15	13	11	11	10	10	11
2022	9	8	6	4	6	3	4	5	6			

MOST IMPORTANT REASON FOR EXPANSION OUTLOOK

Reason Percent by Expansion Outlook
September 2022

Reason	Good Time	Not Good Time	Uncertain
Economic Conditions	2	41	15
Sales Prospects	2	1	1
Fin. & Interest Rates	0	2	1
Cost of Expansion	0	5	2
Political Climate	0	11	7
Other / Not Available	0	4	1

OUTLOOK FOR GENERAL BUSINESS CONDITIONS

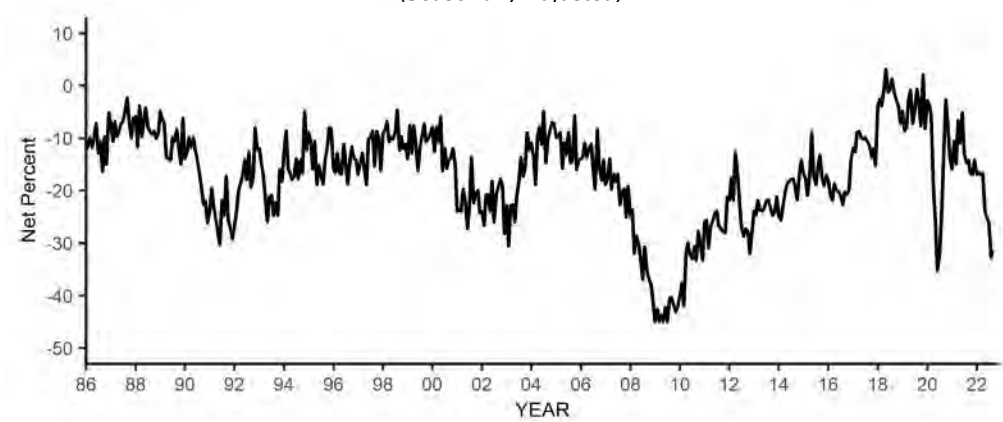
Net Percent ("Better" Minus "Worse") Six Months From Now
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	48	47	46	38	39	33	37	37	31	32	48	37
2018	41	43	32	30	37	33	35	34	33	33	22	16
2019	6	11	11	13	16	16	20	12	9	10	13	16
2020	14	22	5	29	34	39	25	24	32	27	8	-16
2021	-23	-19	-8	-15	-26	-12	-20	-28	-33	-37	-38	-35
2022	-33	-35	-49	-50	-54	-61	-52	-42	-44			

SMALL BUSINESS EARNINGS

EARNINGS

Actual Last Three Months
January 1986 to September 2022
(Seasonally Adjusted)



ACTUAL EARNINGS CHANGES

Net Percent ("Higher" Minus "Lower") Last Three Months
Compared to Prior Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	-12	-13	-9	-9	-10	-10	-10	-11	-11	-14	-12	-15
2018	-4	-3	-4	-1	3	-1	-1	1	-1	-3	-4	-7
2019	-5	-9	-8	-3	-1	-7	-5	-1	-3	-8	2	-8
2020	-3	-4	-6	-20	-26	-35	-32	-25	-12	-3	-7	-14
2021	-16	-11	-15	-7	-11	-5	-13	-15	-14	-17	-17	-14
2022	-17	-17	-17	-17	-24	-25	-26	-33	-31			

MOST IMPORTANT REASON FOR LOWER EARNINGS

Percent Reason
September 2022

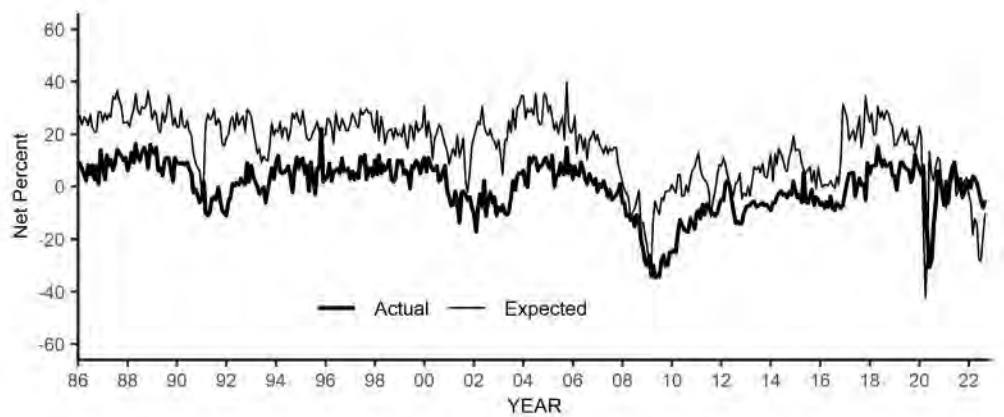
Reason	Current Month	One Year Ago	Two Years Ago
Sales Volume	9	7	23
Increased Costs*	23	15	4
Cut Selling Prices	3	2	3
Usual Seasonal Change	2	3	2
Other	1	2	6

* Increased costs include labor, materials, finance, taxes, and regulatory costs.

SMALL BUSINESS SALES

SALES

Actual (Prior Three Months) and Expected (Next Three Months)
January 1986 to September 2022
(Seasonally Adjusted)



ACTUAL SALES CHANGES

Net Percent ("Higher" Minus "Lower") Last Three Months
Compared to Prior Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	-2	2	5	5	5	-4	0	3	1	1	-5	9
2018	5	8	8	8	15	10	8	10	8	8	9	4
2019	4	-1	5	9	9	7	7	6	2	4	12	9
2020	7	5	8	-11	-19	-31	-28	-15	-6	6	5	-2
2021	-7	2	-6	3	7	9	5	0	3	-4	-2	1
2022	2	0	4	3	1	-2	-5	-8	-5			

SALES EXPECTATIONS

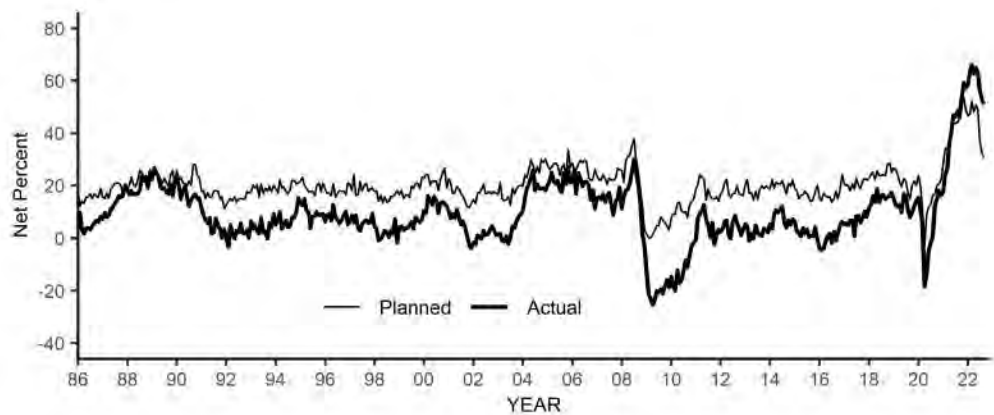
Net Percent ("Higher" Minus "Lower") During Next Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	29	26	18	20	22	17	22	27	15	21	34	28
2018	25	28	20	21	31	26	29	26	29	28	24	23
2019	16	16	19	20	23	17	22	17	16	17	13	16
2020	23	19	-12	-42	-24	13	5	3	8	11	10	-4
2021	-6	-8	0	1	3	7	-4	-2	2	0	2	3
2022	-3	-6	-18	-12	-15	-28	-29	-19	-10			

SMALL BUSINESS PRICES

PRICES

Actual Last Three Months and Planned Next Three Months
January 1986 to September 2022
(Seasonally Adjusted)



ACTUAL PRICE CHANGES

Net Percent ("Higher" Minus "Lower")
Compared to Three Months Ago
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	5	6	5	7	7	1	8	9	6	8	10	8
2018	11	13	16	14	19	14	16	17	15	16	16	17
2019	15	13	12	13	10	17	16	11	8	10	12	14
2020	15	11	6	-18	-14	-5	-2	1	13	15	18	16
2021	17	25	26	36	40	47	46	49	46	53	59	57
2022	58	64	66	63	65	63	56	53	51			

PRICE PLANS

Net Percent ("Higher" Minus "Lower") in the Next Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	21	20	20	18	21	19	23	20	19	22	23	22
2018	23	24	25	22	26	24	24	24	24	28	29	25
2019	27	26	24	21	20	23	22	17	15	20	22	20
2020	24	20	12	-3	9	12	13	16	17	20	21	22
2021	28	34	34	36	43	44	44	44	46	51	54	49
2022	47	47	52	48	51	49	37	32	31			

SMALL BUSINESS EMPLOYMENT

ACTUAL EMPLOYMENT CHANGES

Net Percent ("Increase" Minus "Decrease") in the Last Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	3	4	2	4	5	-1	2	2	-1	3	2	3
2018	4	4	4	7	7	3	6	5	1	5	5	5
2019	7	9	12	7	9	5	3	5	4	4	10	6
2020	9	13	8	-12	-16	-16	-11	-12	-6	-2	-2	-5
2021	0	-3	-2	1	-5	-2	-6	-8	-1	-2	-1	1
2022	-1	1	-2	-2	-4	-2	-4	-8	-4			

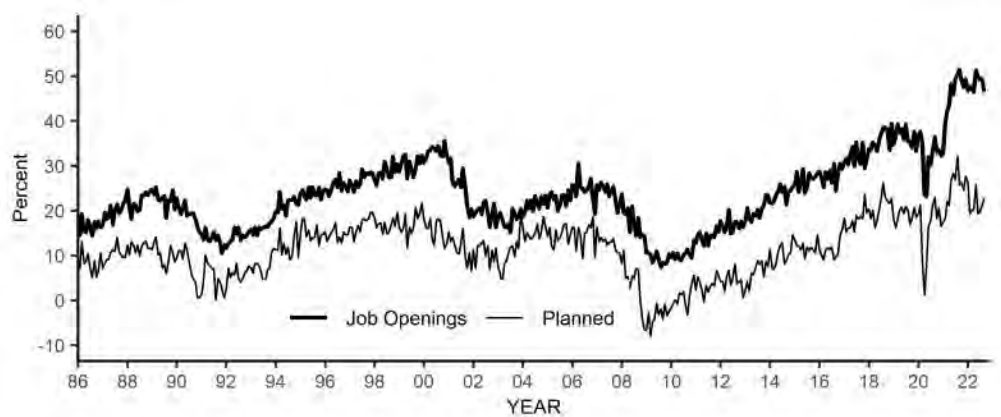
QUALIFIED APPLICANTS FOR JOB OPENINGS

Percent Few or No Qualified Applicants

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	47	44	45	48	51	46	52	52	49	52	44	54
2018	49	47	47	50	48	55	52	55	53	53	53	54
2019	49	49	54	49	54	50	56	57	50	53	53	50
2020	49	52	47	41	37	43	44	46	50	48	47	48
2021	46	51	51	54	57	56	57	60	62	58	56	57
2022	55	57	55	55	61	60	57	57	57			

EMPLOYMENT

Planned Next Three Months and Current Job Openings
January 1986 to September 2022
(Seasonally Adjusted)



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SMALL BUSINESS EMPLOYMENT (CONTINUED)

JOB OPENINGS

Percent With Positions Not Able to Fill Right Now
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	31	32	30	33	34	30	35	31	30	35	30	31
2018	34	34	35	35	33	36	37	38	38	38	34	39
2019	35	37	39	38	38	36	39	35	35	34	38	33
2020	37	38	35	24	23	32	30	33	36	33	34	32
2021	33	40	42	44	48	46	49	50	51	49	48	49
2022	47	48	47	47	51	50	49	49	46			

HIRING PLANS

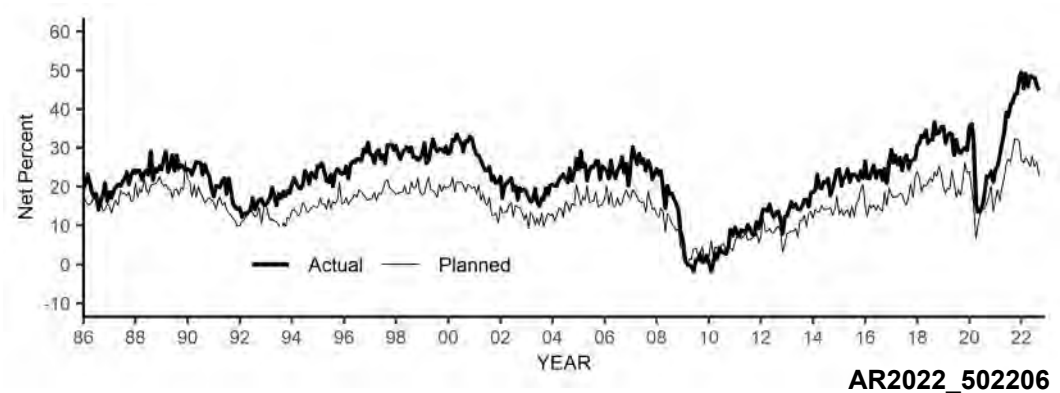
Net Percent ("Increase" Minus "Decrease") in the Next Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	18	15	16	16	18	15	19	18	19	18	24	20
2018	20	18	20	16	18	20	23	26	23	22	22	23
2019	18	16	18	20	21	19	21	20	17	18	21	19
2020	19	21	9	1	8	16	18	21	23	18	21	17
2021	17	18	22	21	27	28	27	32	26	26	25	28
2022	26	19	20	20	26	19	20	21	23			

SMALL BUSINESS COMPENSATION

COMPENSATION

Actual Last Three Months and Planned Next Three Months
January 1986 to September 2022
(Seasonally Adjusted)



SMALL BUSINESS COMPENSATION (CONTINUED)

ACTUAL COMPENSATION CHANGES

Net Percent ("Increase" Minus "Decrease") During Last Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	30	26	28	26	28	24	27	28	25	27	27	27
2018	31	31	33	33	35	31	32	32	37	34	34	35
2019	36	31	33	34	34	28	32	29	29	30	30	29
2020	36	36	31	16	14	14	15	18	23	23	24	21
2021	25	25	28	31	34	39	38	41	42	44	44	48
2022	50	45	49	46	49	48	48	46	45			

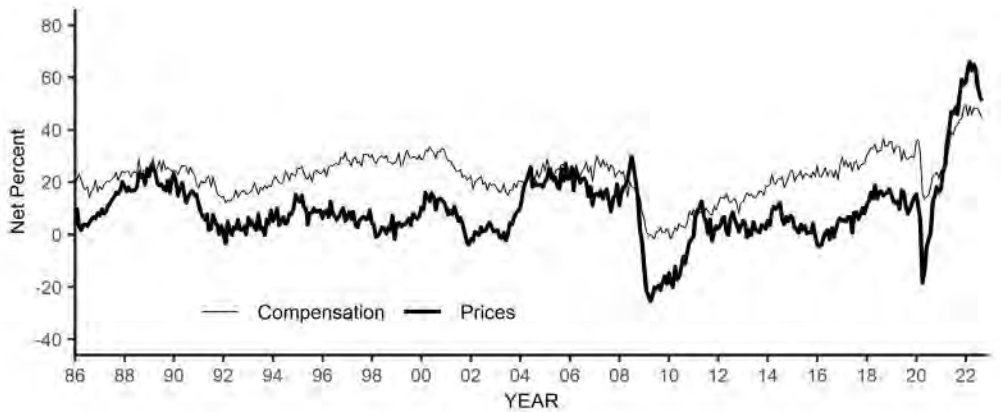
COMPENSATION PLANS

Net Percent ("Increase" Minus "Decrease") in the Next Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	18	17	18	18	18	18	16	15	18	21	17	23
2018	24	22	19	21	20	21	22	21	24	23	25	24
2019	20	18	20	20	24	21	17	19	18	22	26	24
2020	24	19	16	7	10	13	14	14	16	18	20	14
2021	17	19	17	20	22	26	27	26	30	32	32	32
2022	27	26	28	27	25	28	25	26	23			

PRICES AND LABOR COMPENSATION

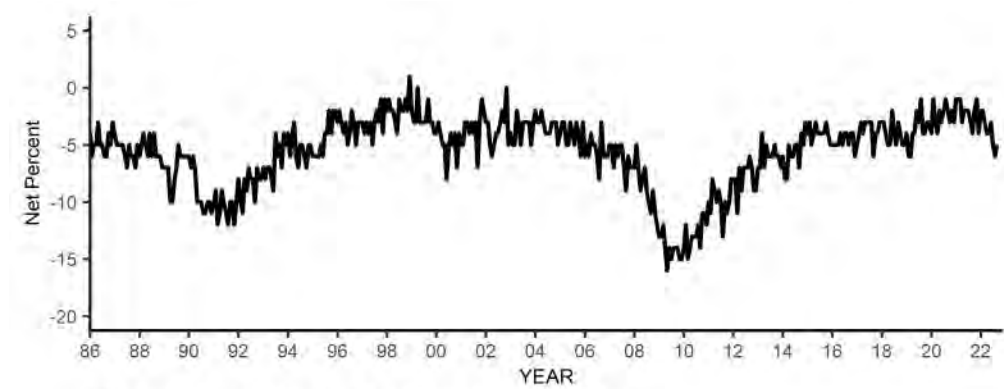
Net Percent Price Increase and Net Percent Compensation
(Seasonally Adjusted)



SMALL BUSINESS CREDIT CONDITIONS

CREDIT CONDITIONS

Loan Availability Compared to Three Months Ago*
January 1986 to September 2022



* For the population borrowing at least once every three months.

REGULAR BORROWERS

Percent Borrowing at Least Once Every Three Months

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	30	31	30	31	28	27	30	31	29	30	30	34
2018	31	31	32	31	34	28	32	32	29	32	32	35
2019	33	33	34	31	31	28	28	33	30	29	28	29
2020	31	28	26	29	26	27	26	24	26	25	22	26
2021	23	26	23	24	23	21	21	20	20	23	21	23
2022	23	23	25	26	23	25	26	27	26			

AVAILABILITY OF LOANS

Net Percent ("Easier" Minus "Harder")
Compared to Three Months Ago
(Regular Borrowers)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	-5	-4	-3	-4	-3	-3	-3	-3	-6	-4	-4	-3
2018	-3	-3	-4	-5	-5	-2	-4	-5	-3	-4	-5	-5
2019	-4	-6	-6	-4	-4	-2	-3	-1	-4	-4	-3	-3
2020	-4	-1	-3	-4	-2	-3	-2	-1	-2	-3	-2	-3
2021	-1	-1	-1	-3	-2	-2	-2	-3	-4	-2	-1	-4
2022	-2	-2	-3	-4	-4	-3	-5	-6	-5			

SMALL BUSINESS CREDIT CONDITIONS (CONTINUED)

BORROWING NEEDS SATISFIED

Percent of All Businesses Last Three Months Satisfied/
Percent of All Businesses Last Three Months Not Satisfied
(All Borrowers)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	31/4	30/3	32/4	32/3	31/3	27/4	31/3	34/3	33/2	29/4	32/4	32/3
2018	31/3	32/2	31/4	32/4	37/4	30/3	32/3	33/3	27/3	30/3	32/3	32/4
2019	33/3	34/3	33/3	32/4	34/3	29/3	28/3	31/4	30/2	29/3	28/3	29/3
2020	30/3	32/2	29/3	29/5	33/3	34/3	35/3	31/3	33/2	29/3	25/2	26/3
2021	24/2	28/2	27/2	26/2	23/3	25/3	23/2	22/2	20/2	23/2	23/2	26/2
2022	25/3	25/2	26/4	26/2	22/2	27/1	25/3	23/4	26/2			

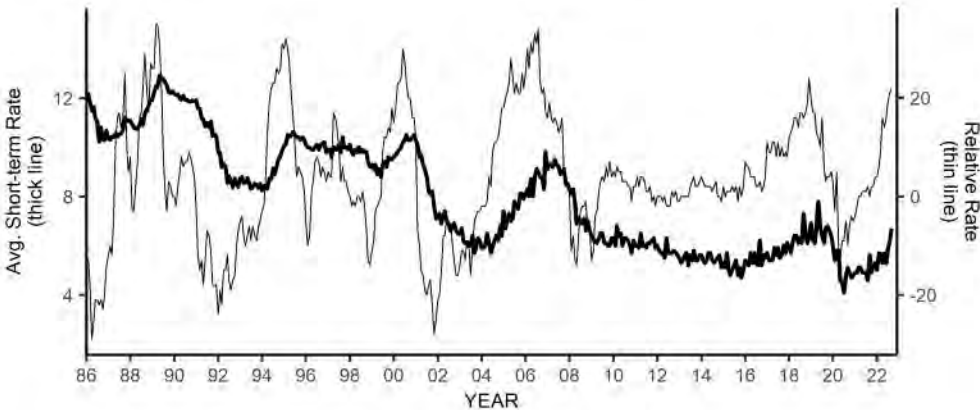
EXPECT EASIER CREDIT CONDITIONS

Net Percent ("Easier" Minus "Harder") During Next Three Months
(Regular Borrowers)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	-3	-3	-3	-4	-4	-3	-4	-3	-4	-5	-4	-4
2018	-4	-3	-6	-6	-5	-4	-4	-6	-5	-5	-5	-6
2019	-5	-5	-7	-4	-5	-3	-4	-2	-4	-3	-3	-3
2020	-4	-1	-4	-6	-4	-6	-5	-4	-5	-4	-3	-5
2021	-3	-6	-3	-3	-3	-4	-4	-4	-4	-4	-3	-4
2022	-4	-4	-4	-5	-4	-5	-7	-8	-6			

INTEREST RATES

Relative Rates and Actual Rates Last Three Months
January 1986 to September 2022



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SMALL BUSINESS CREDIT CONDITIONS (CONTINUED)

RELATIVE INTEREST RATE PAID BY
REGULAR BORROWERS

Net Percent ("Higher" Minus "Lower") Compared to Three Months Ago

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	11	9	9	11	11	8	11	8	10	8	9	8
2018	12	13	14	16	16	14	17	17	16	17	19	24
2019	20	17	17	13	12	10	16	6	3	4	4	5
2020	3	-3	5	-11	-13	-9	-9	-5	-10	-6	-4	-5
2021	-4	-2	0	0	1	1	1	2	0	2	2	4
2022	4	6	9	16	14	16	19	21	22			

Borrowing at Least Once Every Three Months.

ACTUAL INTEREST RATE PAID ON
SHORT-TERM LOANS BY BORROWERS

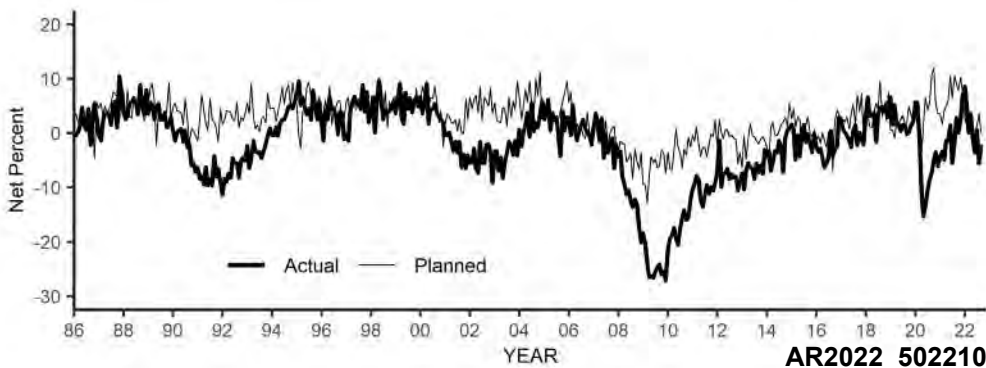
Average Interest Rate Paid

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	5.7	5.4	5.4	5.4	5.9	5.6	5.9	5.5	5.6	6.0	5.7	6.1
2018	5.9	5.7	6.1	6.4	6.4	6.1	6.3	6.1	7.3	6.4	6.1	6.4
2019	6.9	6.2	6.1	6.7	7.8	6.8	6.4	6.1	6.7	6.8	6.6	6.4
2020	6.0	5.4	5.8	5.8	4.6	4.5	4.1	4.8	5.1	4.9	4.7	4.8
2021	4.9	4.9	5.1	5.1	4.9	4.9	4.9	4.6	5.6	4.9	5.1	5.3
2022	5.0	5.7	5.7	5.3	5.7	5.3	5.9	6.2	6.7			

SMALL BUSINESS INVENTORIES

INVENTORIES

Actual (Last Three Months) and Planned (Next Three Months)
January 1986 to September 2022
(Seasonally Adjusted)



SMALL BUSINESS INVENTORIES (CONTINUED)

ACTUAL INVENTORY CHANGES

Net Percent ("Increase" Minus "Decrease") During Last Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	3	1	0	-1	-1	-3	1	1	-2	0	-2	-2
2018	4	7	3	4	4	-2	4	4	5	4	6	3
2019	7	2	5	2	2	0	2	1	0	0	2	2
2020	6	6	0	-11	-15	-14	-11	-9	-7	-5	-4	-6
2021	-4	-3	-5	-2	-1	1	-6	-2	3	0	3	7
2022	9	5	0	4	-1	-4	1	-6	-2			

CURRENT INVENTORY (TOO LOW)

Net Percent ("Too Low" Minus "Too Large") at Present Time
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	-5	-2	-5	-3	-6	-3	-2	-5	-3	-5	-2	-2
2018	-5	-3	-6	-4	-4	0	-3	-3	-1	-2	-5	-1
2019	-3	-2	-6	-4	-4	0	-3	-6	-6	-4	1	-4
2020	-3	-4	-2	-7	-5	1	1	3	5	4	5	7
2021	5	5	3	7	8	11	12	11	10	9	15	9
2022	7	7	9	6	8	5	2	3	1			

INVENTORY PLANS

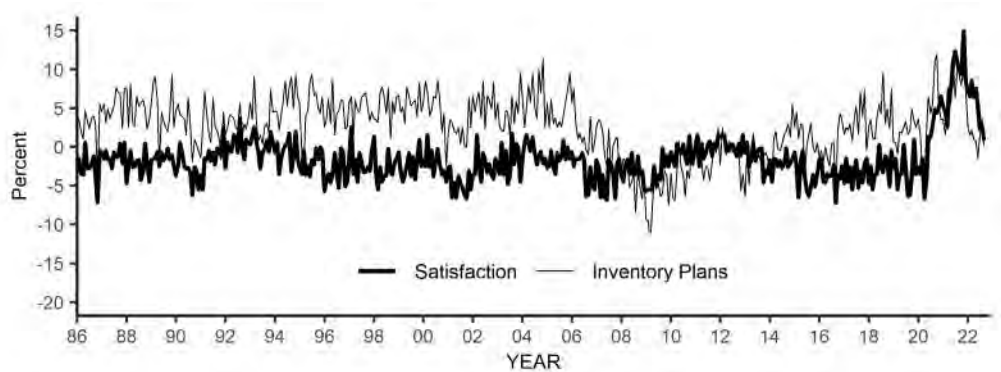
Net Percent ("Increase" Minus "Decrease") in the Next Three to Six Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	2	3	2	3	1	4	5	2	7	4	7	-1
2018	3	4	1	1	4	6	4	10	3	5	2	8
2019	1	1	-1	2	2	3	3	2	2	5	3	3
2020	4	2	-3	-4	2	7	4	6	11	12	5	4
2021	4	2	4	5	6	11	6	11	9	8	10	8
2022	3	2	2	1	1	-2	1	4	0			

SMALL BUSINESS CAPITAL OUTLAYS

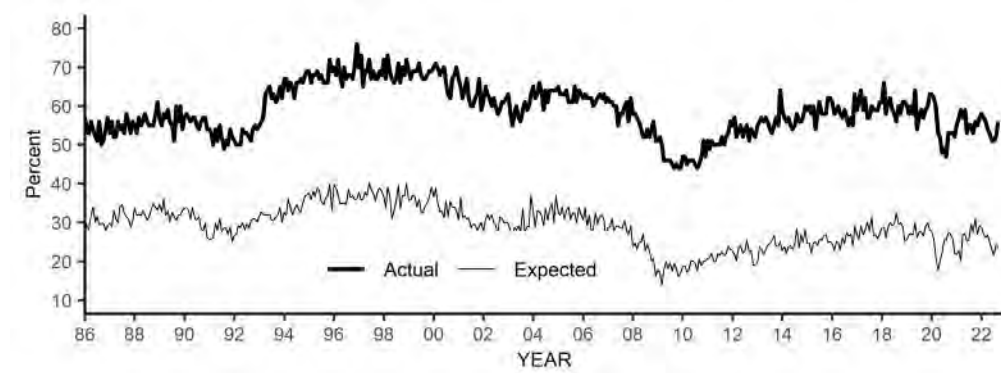
INVENTORY SATISFACTION AND INVENTORY PLANS

Net Percent ("Too Low" Minus "Too Large") at Present Time
Net Percent Planning to Add Inventories in the Next Three to Six Months
(Seasonally Adjusted)



CAPITAL EXPENDITURES

Actual Last Six Months and Planned Next Three Months
January 1986 to September 2022
(Seasonally Adjusted)



ACTUAL CAPITAL EXPENDITURES

Percent Making a Capital Expenditure During the Last Six Months

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	59	62	64	59	62	57	57	60	59	59	59	61
2018	61	66	58	61	62	59	58	56	60	58	61	61
2019	60	58	60	58	64	54	57	59	57	59	60	63
2020	63	62	60	53	52	48	49	47	53	53	53	52
2021	55	57	59	57	59	53	55	55	53	56	55	57
2022	58	57	56	54	53	51	51	52	56			

SMALL BUSINESS CAPITAL OUTLAYS (CONTINUED)

TYPE OF CAPITAL EXPENDITURES MADE
Percent Purchasing or Leasing During Last Six Months

Type	Current Month	One Year Ago	Two Years Ago
Vehicles	22	21	21
Equipment	40	37	34
Furniture or Fixtures	9	10	9
Add. Bldgs. or Land	6	6	6
Improved Bldgs. or Land	16	12	12

AMOUNT OF CAPITAL EXPENDITURES MADE
Percent Distribution of Per Firm Expenditures
During the Last Six Months

Amount	Current Month	One Year Ago	Two Years Ago
\$1 to \$999	2	2	2
\$1,000 to \$4,999	5	5	5
\$5,000 to \$9,999	5	5	5
\$10,000 to \$49,999	19	14	16
\$50,000 to \$99,999	10	10	7
\$100,000 +	13	14	10
No Answer	2	3	2

CAPITAL EXPENDITURE PLANS

Percent Planning a Capital Expenditure During Next Three to Six Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	27	26	29	27	28	30	28	32	27	27	26	27
2018	29	29	26	29	30	29	30	33	30	30	29	25
2019	26	27	27	27	30	26	28	28	27	29	30	28
2020	28	26	21	18	20	22	26	26	28	27	26	22
2021	22	23	20	27	27	25	26	30	28	31	27	29
2022	29	27	26	27	25	23	22	25	24			

SINGLE MOST IMPORTANT PROBLEM

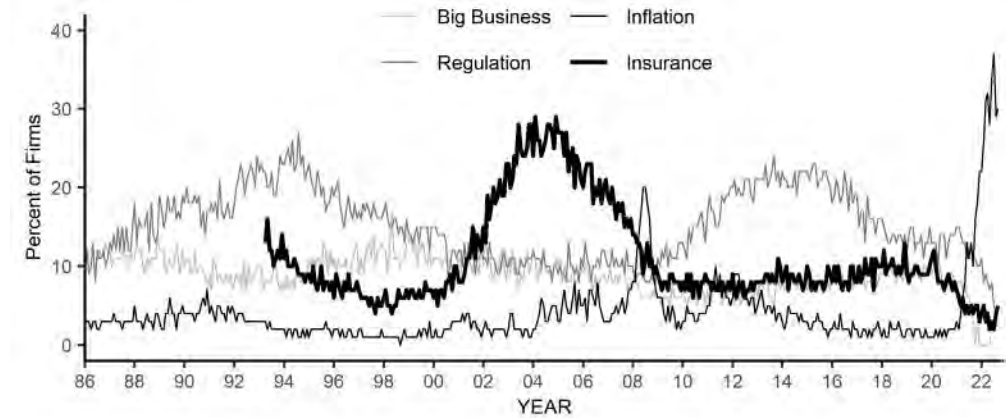
SINGLE MOST IMPORTANT PROBLEM

September 2022

Problem	Current	One Year Ago	Survey High	Survey Low
Taxes	13	17	32	8
Inflation	30	10	41	0
Poor Sales	3	4	34	2
Fin. & Interest Rates	1	0	37	0
Cost of Labor	10	12	13	2
Government Regulation	5	11	27	4
Comp. from Large Bus.	3	3	14	0
Quality of Labor	22	28	29	3
Cost/Avail. of Insurance	5	4	29	0
Other	8	11	31	1

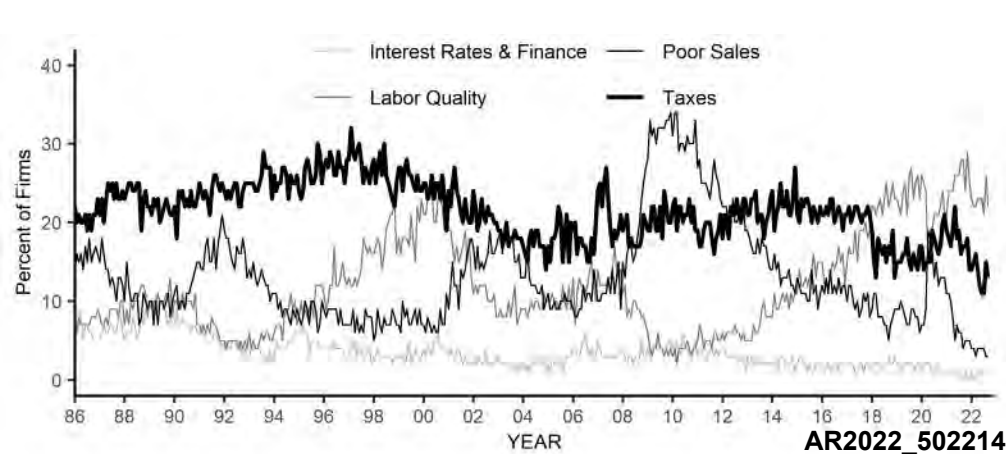
SELECTED SINGLE MOST IMPORTANT PROBLEM

Inflation, Big Business, Insurance and Regulation
January 1986 to September 2022



SELECTED SINGLE MOST IMPORTANT PROBLEM

Taxes, Interest Rates, Sales and Labor Quality
January 1986 to September 2022



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SURVEY PROFILE

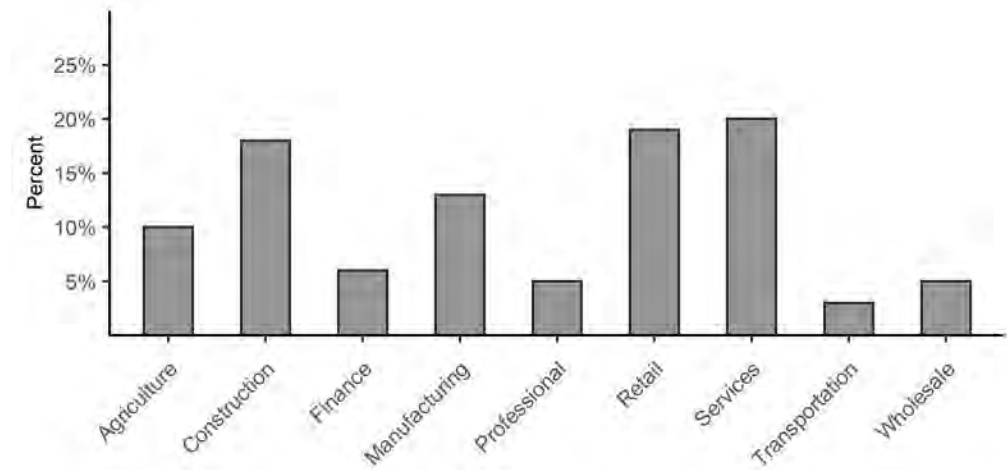
OWNER/MEMBERS PARTICIPATING IN
ECONOMIC SURVEY NFIB

Actual Number of Firms

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2017	1873	764	704	1618	699	624	1533	713	629	1513	544	495
2018	1658	642	570	1554	562	665	1718	680	642	1743	700	621
2019	1740	526	643	1735	650	606	1502	680	603	1618	500	488
2020	1692	641	627	1832	814	670	1652	751	604	1719	561	542
2021	1109	678	514	1516	659	592	1440	595	537	1431	613	639
2022	1504	665	560	1457	581	505	1351	622	557			

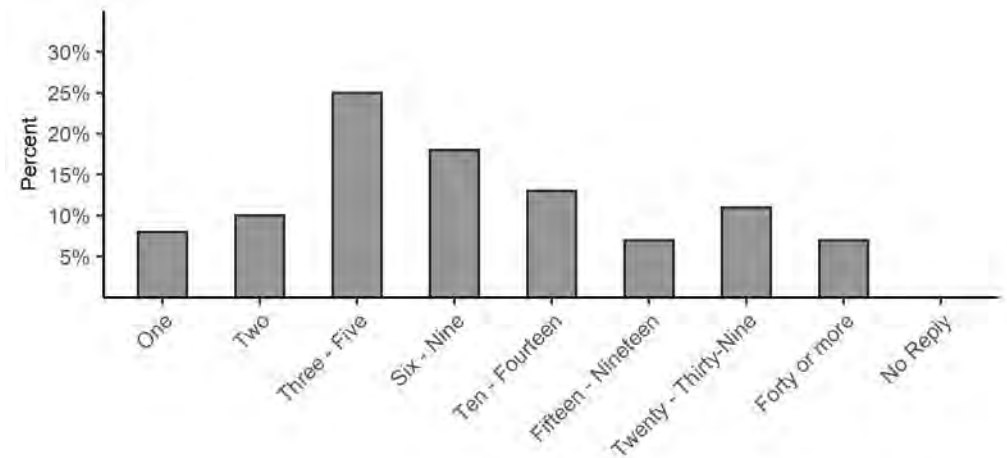
NFIB OWNER/MEMBERS PARTICIPATING
IN ECONOMIC SURVEY

Industry of Small Business



NFIB OWNER/MEMBERS PARTICIPATING
IN ECONOMIC SURVEY

Number of Full and Part-Time Employees



NFIB RESEARCH CENTER SMALL BUSINESS ECONOMIC SURVEY

SMALL BUSINESS SURVEY QUESTIONS	PAGE IN REPORT
Do you think the next three months will be a good time for small business to expand substantially? Why?	5
About the economy in general, do you think that six months from now general business conditions will be better than they are now, about the same, or worse?	6
Were your net earnings or "income" (after taxes) from your business during the last calendar quarter higher, lower, or about the same as they were for the quarter before?	7
If higher or lower, what is the most important reason?	7
During the last calendar quarter, was your dollar sales volume higher, lower, or about the same as it was for the quarter before?	8
Overall, what do you expect to happen to real volume (number of units) of goods and/or services that you will sell during the next three months?	8
How are your average selling prices compared to three months ago?	9
In the next three months, do you plan to change the average selling prices of your goods and/or services?	9
During the last three months, did the total number of employees in your firm increase, decrease, or stay about the same?	10
If you have filled or attempted to fill any job openings in the past three months, how many qualified applicants were there for the position(s)?	10
Do you have any job openings that you are not able to fill right now?	11
In the next three months, do you expect to increase or decrease the total number of people working for you?	11
Over the past three months, did you change the average employee compensation?	12
Do you plan to change average employee compensation during the next three months?	12

SMALL BUSINESS SURVEY QUESTIONS	PAGE IN REPORT
Are...loans easier or harder to get than they were three months ago?	13
During the last three months, was your firm able to satisfy its borrowing needs?	14
Do you expect to find it easier or harder to obtain your required financing during the next three months?	14
If you borrow money regularly (at least once every three months) as part of your business activity, how does the rate of interest payable on your most recent loan compare with that paid three months ago?	15
If you borrowed within the last three months for business purposes, and the loan maturity (pay back period) was 1 year or less, what interest rate did you pay?	15
During the last three months, did you increase or decrease your inventories?	16
At the present time, do you feel your inventories are too large, about right, or inadequate?	16
Looking ahead to the next three months to six months, do you expect, on balance, to add to your inventories, keep them about the same, or decrease them?	16
During the last six months, has your firm made any capital expenditures to improve or purchase equipment, buildings, or land?	17
If [your firm made any capital expenditures], what was the total cost of all these projects?	18
Looking ahead to the next three to six months, do you expect to make any capital expenditures for plant and/or physical equipment?	18
What is the single most important problem facing your business today?	19
Please classify your major business activity, using one of the categories of example below	20
How many employees do you have full and part-time, including yourself?	20

UPDATED MARCH 2021

PRESIDENTS' ALLIANCE | ON HIGHER EDUCATION AND IMMIGRATION

New
American
Economy

Undocumented Students in Higher Education

How Many Students are in U.S. Colleges and Universities, and Who Are They?

Executive Summary

Undocumented immigrants, including DACA recipients, are integral members of communities across the United States, paying taxes, starting businesses, and serving in key industries, with many on the front lines as essential workers and health professionals battling the COVID-19 pandemic. Hundreds of thousands of undocumented immigrants are students enrolled in higher education, working to obtain degrees and going on to use those skills as significant contributors to our economy.

New estimates, drawn from the 2019 American Community Survey (ACS), indicate that **undocumented students account for more than 427,000 or approximately 2 percent of all students** in higher education in the United States. Students with DACA or who are eligible for DACA (referred to as “DACA-eligible”) represent less than half of the undocumented student population, constituting a subset of approximately **181,000 students or 0.8 percent of all students** in higher education. The new estimates are an update to an April 16, 2020 report by New American Economy and the Presidents’ Alliance on Higher Education and Immigration, [Undocumented Students in Higher Education: How Many Students are in U.S. Colleges and Universities, and Who Are They?](#)

These findings confirm our understanding of the broader undocumented student population. Most undocumented students pursuing postsecondary education in the U.S. do not have DACA. Undocumented students also represent a heterogeneous population in higher education, reflecting the broad range and diversity of first-generation immigrants in the U.S. Undocumented students include immigrant youth and adult learners, striving to pursue higher education both at public and private institutions and at various academic levels. In their pursuit of higher education, undocumented students actively ready themselves to fill critical skills shortages, including in healthcare, STEM fields, teaching, and business, and become better positioned to support their families, communities, and our regional and national economies.

These new estimates also underscore the urgency for Congress to pass a permanent, legislative solution to protect undocumented students from deportation and ensure they have access to work authorization, as well as a path to U.S. citizenship. State legislatures must also expand access to in-state tuition, state financial aid, occupational licensure, and driver licenses to all undocumented students with state residency. These policies would only strengthen recovery efforts in the aftermath of the Covid-19 pandemic. Undocumented students contribute immensely to campuses and communities across the country. Their pursuit of higher education is vital to the future of our country and the competitiveness of our economy.

“In their pursuit of higher education, undocumented students actively ready themselves to fill critical skills shortages, including in healthcare, STEM fields, teaching, and business, and become better positioned to support their families, communities, and our regional and national economies.”

UNDOCUMENTED STUDENTS IN HIGHER EDUCATION

Why Numbers Are Different From 2018

Comparing last year’s report to this year’s estimates, the undocumented student population decreased by 5.1 percent, and the DACA-eligible student population decreased by 16.2 percent. These declines in undocumented and DACA-eligible student enrollment mirror national trends in migration in the United States. Other factors related to the attrition of undocumented and DACA-eligible college students in post-secondary enrollment include the implementation of strict immigration policies from the previous administration, the challenging political atmosphere, adjustment of status (especially among DACA-eligible individuals), and the rising cost of higher education in the United States. With regard to overall national migration trends, the arrival of new immigrants to the United States has decreased in recent years, and there has been an overall decline in the number of undocumented immigrants. An estimated 10.9 million undocumented immigrants were living in the United States in 2018. By 2019, the undocumented population had declined by 5.6 percent to 10.3 million. Key among reasons for this decrease is the number of Mexican immigrants returning back to Mexico is higher than those migrating into the United States.

Methodology

Using the microdata of the 1-year sample from the 2019 American Community Survey (ACS), we first apply the methodological approach outlined by Harvard University economist George Borjas (2016) to study the subset of the immigrant population that is likely to be undocumented students in postsecondary education. We then use a set of criteria to identify potential international students, based on factors such as school attendance, grade level, age, length of stay in the United States, and hours worked, and further exclude them from the group to arrive at our estimates about undocumented students.

Since DACA-eligible students is a subset of the total undocumented student population, we apply the guidelines for DACA from the U.S. Citizenship and Immigration Services (USCIS) to ACS microdata to restrict our data further. Further description of New American Economy’s methodology of identifying undocumented and DACA-eligible students can be found in NAE’s methodology report.

Data Charts

CHART 1

Undocumented and DACA-Eligible Students in Higher Education, 2019

	Number of Undocumented Students in Postsecondary Education	Share of Undocumented Students in Postsecondary Education	Number of DACA-Eligible Students in Postsecondary Education	Share of DACA-Eligible Students in Postsecondary Education
United States	427,345	2.0%	181,624	0.8%

Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 1-Year Estimates.

UNDOCUMENTED STUDENTS IN HIGHER EDUCATION**CHART 2****Undocumented and DACA-Eligible Students in Higher Education By State, 2019**

State	Number of Undocumented Students in Postsecondary Education	Share of Undocumented Students in Postsecondary Education	Number of DACA-Eligible Students in Postsecondary Education	Share of DACA-Eligible Students in Postsecondary Education
California	94,030	3.0%	49,704	1.6%
Texas	58,255	3.1%	30,850	1.7%
Florida	40,152	3.0%	12,161	0.9%
New York	25,296	1.8%	7,932	0.6%
Illinois	17,757	2.1%	8,784	1.0%
New Jersey	17,590	3.0%	*	1.0%
Washington	15,039	3.3%	*	1.5%
Georgia	14,201	2.0%	*	0.7%
Virginia	12,387	2.0%	*	0.8%
Massachusetts	11,632	2.0%	*	0.5%
Maryland	9,730	2.2%	*	0.8%
Arizona	9,480	2.0%	*	1.5%
North Carolina	8,741	1.2%	*	0.6%
Nevada	*	3.7%	*	*
Connecticut	*	2.3%	*	*
Colorado	*	1.8%	*	*
Utah	*	1.8%	*	*
Oregon	*	1.3%	*	*
Indiana	*	1.2%	*	*
Pennsylvania	*	1.1%	*	*
Michigan	*	1.0%	*	*
Ohio	*	0.9%	*	*

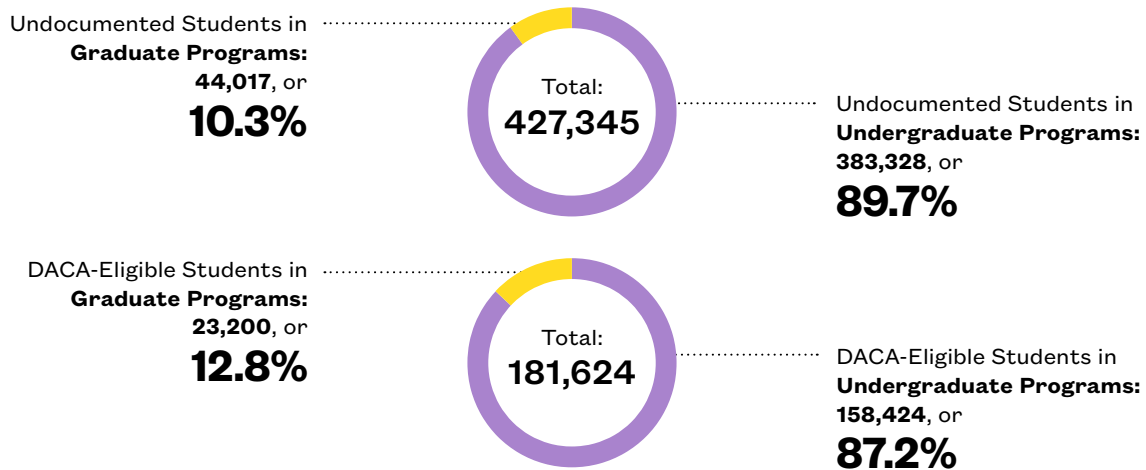
* Sample size is too small to report for the state

Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 1-Year Estimates.

UNDOCUMENTED STUDENTS IN HIGHER EDUCATION

CHART 3

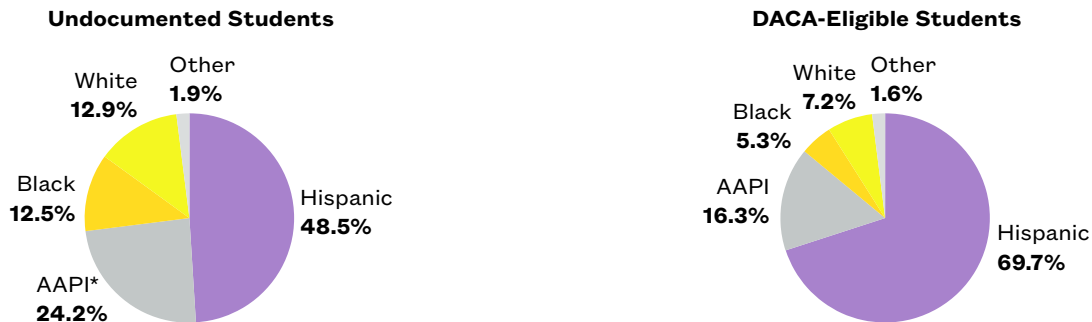
Undocumented and DACA-Eligible Students in Undergraduate and Graduate Programs, 2019



Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 1-Year Estimates.

CHART 4

Undocumented and DACA-Eligible Students in Higher Education By Race, 2019



	Undocumented Students	Share of Undocumented Students By Race	DACA-Eligible Students	Share of DACA-Eligible Students By Race
AAPI	103,263	24.2%	29,526	16.3%
Black	53,617	12.5%	9,607	5.3%
Hispanic	207,207	48.5%	126,515	69.7%
White	55,330	12.9%	13,010	7.2%
Other Race/Ethnicity	7,928	1.9%	2,966	1.6%

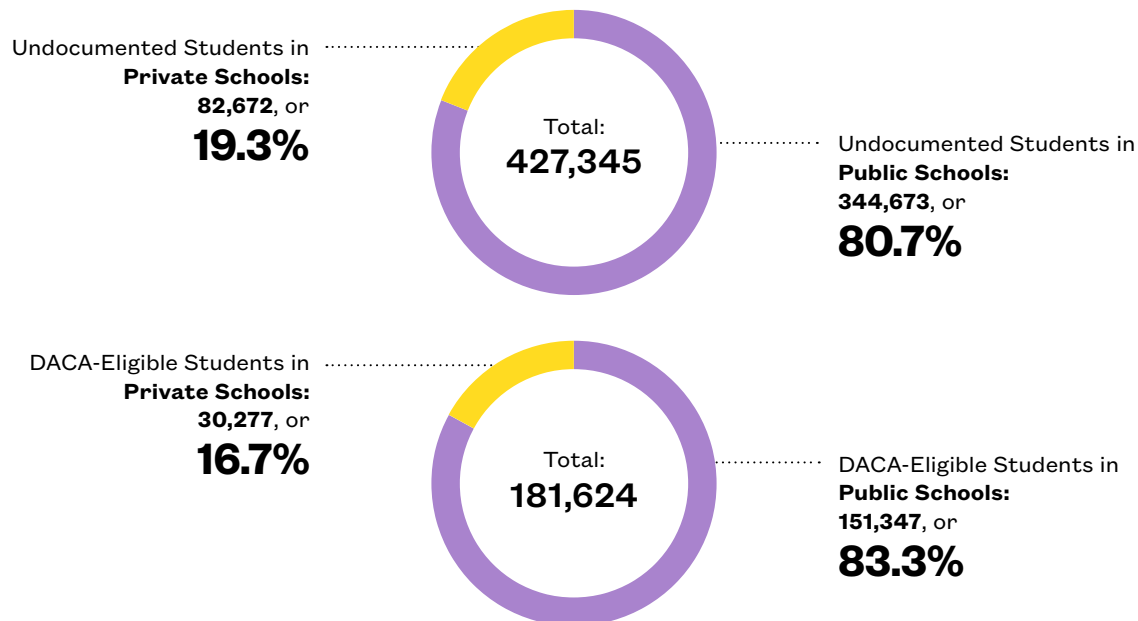
* Asian American and Pacific Islander

Source: U.S. Census Bureau; American Community Survey, 2018 American Community Survey 1-Year Estimates.

UNDOCUMENTED STUDENTS IN HIGHER EDUCATION

CHART 5

Undocumented and DACA-Eligible Students Enrolled in Public and Private* Institutions of Higher Education, 2019



* Private schools include both non-profit and for-profit institutions.

Source: U.S. Census Bureau; American Community Survey, 2018 American Community Survey 1-Year Estimates.

CHART 6

Undocumented and DACA-Eligible Students By Age of Arrival, 2019

Age of Arrival	Undocumented Students	Share of Undocumented Students By Age of Arrival	DACA-Eligible Students	Share of DACA-Eligible Students by Age of Arrival
Child (0-12)	192,716	45.1%	165,945	91.4%
Adolescent (13-18)	102,788	24.1%	15,679	8.6%
Young Adult (19-21)	75,129	17.6%	*	*
Adult (22+)	56,712	13.3%	*	*

* To be DACA-eligible, an individual needs to establish that they were brought to the U.S. at age 17 or younger.

Source: U.S. Census Bureau; American Community Survey, 2019 American Community Survey 1-Year Estimates.

Center for American Progress



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IMMIGRATION

What We Know About the Demographic and Economic Impacts of DACA Recipients: Spring 2020 Edition

A National and State-by-State Look

By [Nicole Prchal Svajlenka](#) and [Philip E. Wolgin](#) | April 6, 2020, 9:01 am



Getty/Hyoung Chang

AR2022_502223

A DACA recipient is photographed in Colorado, September 2018.

Note: This column contains updates to the Center for American Progress' September 2019 columns on the [national](#) and [state-by-state](#) impacts of DACA recipients.

Since 2012, more than 825,000 people who came to the country at a young age many years ago have been able to take advantage of [Deferred Action for Childhood Arrivals \(DACA\)](#), and the protection from deportation and work permits that the initiative brings. Over the nearly eight years since DACA began, [recipients have been able to](#) go back to school; get better and better-paying jobs; buy houses and cars; and start businesses, creating jobs and economic prosperity for all Americans. Even so, and in the midst of the COVID-19 pandemic—as [more than 200,000 DACA recipients](#) work on the front lines of the response, serving their communities and [the health of the nation](#)—the Trump administration is pushing ahead with its attempt to end DACA.

This column looks at the national and state-by-state demographic and economic impacts of individuals who currently hold DACA. Taken together, this group of people is thriving and giving back to their communities even as their well-being and contributions are at risk.

Methodology

The data in this column are based on CAP analysis of three years of pooled American Community Survey (ACS) microdata: the 2016 1-year, 2017 1-year, and 2018 1-year ACS, accessed via the [University of Minnesota's IPUMS USA](#). It also contains data on the number of DACA recipients filed as evidence in *Regents of the University of California, et al. v. U.S. Department of Homeland Security, et al.*; the data are on file with the author and show 643,430 active DACA recipients as of March 31, 2020. Some of the numbers presented here are lower than in previous iterations of this analysis, which can likely be attributed to the quarterly decline in the number of active DACA recipients.

More information on the economic contribution calculations can be found in [“What We Know About DACA Recipients in the United States”](#) by Nicole Prchal Svajlenka.

DACA recipients at the national level

On average, DACA recipients arrived in the United States in 1999, at age 7. And more than one-third of DACA recipients—37 percent—arrived before age 5. Given this, and the many years that DACA recipients have waited for Congress to come together and pass a solution that would put them on a pathway to citizenship, the average DACA recipient is now 28 years old. Many have started families: 254,000 U.S.-born children have at least one parent who holds DACA. In total, 1.5 million people live with a DACA recipient.

Nationally, according to CAP analysis, DACA recipients and their households pay \$5.6 billion in federal taxes, and \$3.1 billion in state and local taxes, each year. That money comes on top of the contributions that DACA recipients make to the health of the [Social Security and Medicare funds](#) through their payroll tax contributions. After taxes, DACA recipients and their households have a combined \$24 billion in spending power to put back into their communities.

Additionally, DACA recipients own 56,000 homes, making an annual \$566.9 million in mortgage payments. Other DACA recipients pay \$2.3 billion in rental payments each year.

DACA recipients at the state level

Breaking these data down at the state level shows significant economic activity and contributions in all 50 states.

TABLE 1
Arriving as children, DACA recipients have deep-rooted ties to their communities
Characteristics of DACA recipients and their households, by state

State	Number of DACA recipients	Average age at arrival	Average year of arrival	Number of individuals living in households with DACA recipients	Number of U.S.-born children of DACA recipients
Alabama	3,970	6	2000	8,800	1,800
Alaska	70	9*	2004*	300*	N/A
Arizona	23,990	6	1999	54,900	10,400
Arkansas	4,480	7	1999	10,400	2,500
California	183,460	7	1998	462,600	66,400
Colorado	14,520	6	1999	28,700	6,700
Connecticut	3,560	8	2000	6,400	900*
Delaware	1,310	8*	2000*	3,600 *	1,100 *
Florida	24,810	8	2000	47,900	7,100
Georgia	20,610	7	2000	46,300	8,200
Hawaii	340	7	1999	1,200	100 *
Idaho	2,760	6	1997	4,900	1,500
Illinois	33,940	7	1999	76,000	14,400
Indiana	8,870	7	2001	18,900	4,400
Iowa	2,420	7	2000	4,600	1,400 *
Kansas	5,550	6	2000	11,300	2,900
Kentucky	2,710	7	2001	5,200	1,100 *

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Louisiana	1,730	7	2000	3,200	800 *
Maine	50	N/A	N/A	N/A	N/A
Maryland	7,870	8	2000	19,600	2,900
Massachusetts	5,480	8	1999	8,500	1,200 *
Michigan	5,250	7	1999	8,500	1,300
Minnesota	5,180	6	1999	11,700	2,200 *
Mississippi	1,310	6*	1999*	2,400 *	400 *
Missouri	3,010	8	2000	5,500	1,800
Montana	70	N/A	N/A	N/A	N/A
Nebraska	2,910	6	2000	7,200	1,300 *
Nevada	12,100	6	1999	28,300	5,000
New Hampshire	270	7*	1998*	700 *	N/A
New Jersey	16,350	8	2000	33,600	4,700
New Mexico	5,690	6	1999	10,600	2,500
New York	28,180	8	1999	62,500	7,000
North Carolina	24,050	7	2001	50,800	11,000
North Dakota	120	N/A	N/A	N/A	N/A
Ohio	3,860	7	1999	7,000	1,600
Oklahoma	6,110	7	2000	12,700	1,700
Oregon	9,710	7	1998	20,600	5,900
Pennsylvania	4,480	7	2001	7,300	1,200
Rhode Island	890	7	1999	1,500	400 *
South Carolina	5,750	7	2001	11,100	2,400
South Dakota	190	9*	2001*	300 *	N/A
Tennessee	7,650	7	2001	19,100	4,900
Texas	106,090	7	2000	241,500	52,000
Utah	8,490	6	1999	18,000	2,400
Vermont	20	N/A	N/A	N/A	N/A
Virginia	9,410	8	2001	19,600	2,800
Washington	16,030	7	2000	34,300	4,500
Washington, D.C.	600	7*	1999*	800 *	N/A
West Virginia	110	9*	2001*	200 *	1,300*
Wisconsin	6,540	6	1999	10,800	N/A
Wyoming	510	N/A	N/A	N/A	N/A
United States	643,430	7	1999	1,450,900	254,300

Notes: Unavailable data are due to small sample sizes. Data flagged with an asterisk (*) are based on a small sample size and may be unreliable.
 Sources: Center for American Progress analysis of pooled 2016 1-year, 2017 1-year, and 2018 1-year American Community Survey microdata. Data accessed via Steven Ruggles and others, "Integrated Public Use Microdata Series, U.S. Census Data for Social, Economic, and Health Research, 2016, 2017, and 2018 American Community Survey: 1-year estimates" (Minneapolis: Minnesota Population Center, 2020), available at <https://usa.ipums.org/usa/>; Regents of the University of California, et al. v. U.S. Department of Homeland Security, et al., 3:17-cv-05211-WHA (January 9, 2018). This dataset is filed as an exhibit quarterly, most recently on March 31, 2020, and is on file with the author.



Half of U.S. states have more than 10,000 people living in households with DACA recipients, meaning that the end of DACA would reverberate well beyond recipients themselves.

TABLE 2
DACA recipients' fiscal and economic contributions boost the economy
 Annual tax contributions, spending power, and housing payments of household, by state

State	Federal taxes	State and local taxes	Spending power	Number of homes owned	Annual mortgage payments	Annual rental payments
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State	State	Total State	Per Capita	Number of DACA Recipients	Per Capita	Per Capita
Alabama	\$25.3 M	\$13.7 M	\$131.7 M	400	\$1.3 M	\$9 M
Alaska	\$1.3 M*	\$200,000*	\$5 M*	N/A	N/A	N/A
Arizona	\$159.8 M	\$90.2 M	\$758.4 M	2,600	\$21 M	\$56.7 M
Arkansas	\$31.3 M	\$20.7 M	\$158.1 M	900	\$6.4 M	\$10.3 M
California	\$2 B	\$977.5 M	\$7.8 B	9,500	\$172.9 M	\$835.6 M
Colorado	\$113.5 M	\$58.7 M	\$524.4 M	2,000	\$21.8 M	\$62 M
Connecticut	\$35.7 M	\$21.8 M	\$138.1 M	200	\$2.4 M	\$15.2 M
Delaware	\$11.7 M*	\$4.3 M*	\$57.1 M*	N/A	N/A	\$7.8 M*
Florida	\$165.5 M	\$72.5 M	\$779.6 M	1,600	\$14.6 M	\$86.2 M
Georgia	\$170.2 M	\$92.5 M	\$747.5 M	2,000	\$19.6 M	\$67.7 M
Hawaii	\$6.9 M	\$3.1 M	\$20.9 M	N/A	N/A	\$1 M
Idaho	\$14.4 M	\$8.6 M	\$81.4 M	300	\$2.1 M	\$6.6 M
Illinois	\$293.5 M	\$209.5 M	\$1.3 B	4,300	\$42.3 M	\$102.9 M
Indiana	\$63.2 M	\$39.3 M	\$294.6 M	1,100	\$5.4 M	\$25 M
Iowa	\$13.8 M	\$11.1 M	\$79.9 M	700	\$6 M	\$5.4 M
Kansas	\$29.5 M	\$21.1 M	\$153.9 M	700	\$2.9 M	\$14.6 M
Kentucky	\$18.5 M	\$11.1 M	\$86.6 M	300	\$1.2 M	\$7.3 M
Louisiana	\$10.1 M	\$5.8 M	\$49 M	300	\$1.7 M	\$2.5 M
Maine	N/A	N/A	N/A	N/A	N/A	N/A
Maryland	\$90.9 M	\$53 M	\$359.1 M	700	\$7.6 M	\$30.5 M
Massachusetts	\$77.5 M	\$32.5 M	\$260.2 M	500	\$9.4 M	\$27.3 M
Michigan	\$38.7 M	\$21.9 M	\$183.5 M	700	\$4.5 M	\$15.3 M
Minnesota	\$57.5 M	\$31.2 M	\$236.1 M	300	\$1.5 M	\$25.4 M
Mississippi	\$5.7 M*	\$3.8 M*	\$30.7 M*	100 *	\$700,000*	\$3.6 M*
Missouri	\$18 M	\$10.9 M	\$92.2 M	400	\$1.8 M	\$8.6 M
Montana	N/A	N/A	N/A	N/A	N/A	N/A
Nebraska	\$31.5 M	\$16.2 M	\$117.7 M	400	\$2.8 M	\$9.1 M
Nevada	\$91.8 M	\$36.5 M	\$431.4 M	1,300	\$12.4 M	\$35.3 M
New Hampshire	\$6.3 M*	\$1.8 M*	\$21.9 M*	N/A	N/A	\$1 M*
New Jersey	\$204.9 M	\$105.2 M	\$745.9 M	700	\$12.8 M	\$72.1 M
New Mexico	\$28.4 M	\$18.6 M	\$147.7 M	1,100	\$8.7 M	\$12.3 M
New York	\$374.1 M	\$238.8 M	\$1.3 B	800	\$16.4 M	\$132.8 M
North Carolina	\$127.3 M	\$80.3 M	\$687.6 M	3,300	\$13.8 M	\$62.7 M
North Dakota	N/A	N/A	N/A	N/A	N/A	N/A
Ohio	\$28.7 M	\$18.1 M	\$131 M	500	\$3.6 M	\$17.6 M
Oklahoma	\$38.9 M	\$25.6 M	\$190.9 M	600	\$3.3 M	\$10.8 M
Oregon	\$72 M	\$39.9 M	\$341 M	1,300	\$9.2 M	\$34.1 M
Pennsylvania	\$34.3 M	\$19.9 M	\$141.3 M	300	\$3.4 M	\$15.7 M
Rhode Island	\$7.2 M	\$3.9 M	\$30.7 M	100	\$1.4 M	\$4.3 M
South Carolina	\$35.8 M	\$18.9 M	\$177.7 M	600	\$3.8 M	\$14.6 M
South Dakota	\$1.1 M*	\$600,000*	\$6 M*	100 *	\$600,000*	\$500,000*
Tennessee	\$45.4 M	\$24.2 M	\$247.7 M	1,200	\$7.8 M	\$21 M
Texas	\$705.2 M	\$409.9 M	\$3.4 B	10,500	\$80.1 M	\$278.6 M
Utah	\$61 M	\$30.6 M	\$287.7 M	900	\$8.3 M	\$20.6 M
Vermont	N/A	N/A	N/A	N/A	N/A	N/A
Virginia	\$100.5 M	\$48.7 M	\$392.9 M	500	\$6.1 M	\$38.4 M
Washington	\$168.9 M	\$90.5 M	\$686.4 M	1,500	\$17.9 M	\$62.9 M
Washington, D.C.	\$5.9 M*	\$2.9 M*	\$21 M*	N/A	N/A	\$3.6 M*
West Virginia	\$800,000*	\$300,000*	\$3.1 M*	N/A	N/A	N/A

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State	2016	2017	2018	2019	2020	2021
Wisconsin	\$38.1 M	\$26.5 M	\$192.3 M	700	\$5.9 M	\$21 M
Wyoming	N/A	N/A	N/A	N/A	N/A	N/A
United States	\$5.6 B	\$3.1 B	\$24 B	56,100	\$566.9 M	\$2.3 B

Notes: Unavailable data are due to small sample sizes. Data flagged with an asterisk (*) are based on a small sample size and may be unreliable. Data are in 2018 dollars. Tax and spending power are for households that include DACA recipients. Mortgage and rental payments are for households headed by a DACA recipient or a DACA recipient's partner.

Sources: Center for American Progress analysis of pooled 2016 1-year, 2017 1-year, and 2018 1-year American Community Survey microdata. Data accessed via Steven Ruggles and others, "Integrated Public Use Microdata Series, U.S. Census Data for Social, Economic, and Health Research, 2016, 2017, and 2018 American Community Survey: 1-year estimates" (Minneapolis: Minnesota Population Center, 2020), available at <https://usa.ipums.org/usa/>. Regents of the University of California, et al. v. U.S. Department of Homeland Security, et al., 3:17-cv-05211-WHA (January 9, 2018). This dataset is filed as an exhibit quarterly, most recently on March 31, 2020, and is on file with the author.



In 42 states and Washington, D.C., DACA recipients and their households pay more than \$1 million in state and local taxes each year, with significantly higher contributions—more than \$50 million—in a dozen states. At a time when state budgets are deeply constrained by the response to the COVID-19 pandemic, this economic activity is critical to their continued functioning.

Conclusion

In the midst of one of the greatest challenges the nation has ever faced, now is not the time to end DACA and kick recipients out of the workforce. Their families, their communities, and the nation as a whole cannot afford to see DACA end.

Nicole Prchal Svajlenka is an associate director for research on the Immigration Policy team at the Center for American Progress. Philip E. Wolgin is the managing director of Immigration Policy at the Center.



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ARTICLE NOV 24, 2021

The Demographic and Economic Impacts of DACA Recipients: Fall 2021 Edition

Nearly 600,000 DACA recipients live across the United States, raise 300,000 U.S.-citizen children, and pay \$9.4 billion in taxes each year.

AUTHORS



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Advancing Racial Equity and Justice, Deferred Action for Childhood Arrivals, Immigration



DACA recipients and immigrant rights leaders meet with Vice President Kamala Harris at the White House in Washington, D.C., on July 22, 2021. (Getty/Kent Nishimura)

In 2012, the Obama administration created the Deferred Action for Childhood Arrivals (DACA) program to protect certain young undocumented immigrants from deportation. Through DACA—in which applicants receive a temporary stay of deportation and work authorization—more than 825,000 people who arrived in the

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United States as young children were able to access more stability in their lives. DACA has enabled recipients to pursue higher education, become homeowners, and earn higher wages. And, alongside that, with higher earnings comes more tax revenue and economic contributions that are felt in their communities and nationwide.

But these protections are not permanent: They could be stripped away at any moment. Even as the Supreme Court ruled last year that the Trump administration’s attempt to end the program was illegal, DACA is still under threat. In July, a federal judge in Texas ruled DACA itself unlawful and blocked the U.S. Department of Homeland Security from enrolling new applicants into the program, though it stayed the decision for current DACA recipients who, for now, are able to continue to renew their protections.

In response to this ruling, the Biden administration took steps to fortify and preserve DACA from these continual attacks through the federal rule-making process. This is only the first step, as only congressional action can provide a pathway to citizenship and permanent protections for DACA recipients.



More than 1.3 million people live with a DACA recipient.

This column presents the most up to date national and state-by-state data on DACA recipients, including their long-time ties to the United States, their demographic characteristics, and their fiscal and economic contributions. Strengthening DACA would not only maintain stability for these individuals and their families, but it would also be integral to the country as it continues to recover from the coronavirus pandemic.

DACA recipients’ family ties to the United States

Given the eligibility requirements for DACA—arriving prior to the age of 16 and before June 15, 2007—DACA recipients have all spent more than 14 years in the United States. Simply put, the more time that elapses without updates to DACA eligibility, the longer the ties to United States as well. On average:

- DACA recipients arrived in the United State in 1999 at the age of 7.
- More than one-third of DACA recipients arrived in the United States before the age of 5.
- The average DACA recipient is now 26 years old.

But, in addition, more than 1.3 million people live with a DACA recipient, including 300,000 U.S.-born children who have at least one parent with DACA.

State level data on DACA recipients is presented below for the 39 states with more than 1,000 DACA recipients.

Table 1

Characteristics of Deferred Action for Childhood Arrivals (DACA) recipients and their households, by state



State	Number of DACA recipients	Average age at arrival	Average year of arrival	Number of hours worked
Alabama	3,720	7	2000	
Arizona	22,260	6	1999	
Arkansas	4,130	7	1999	
California	168,800	7	1998	
Colorado	13,320	6	1999	
Connecticut	3,200	7	2000	
Delaware*	1,220	8	2002	
Florida	22,550	8	2000	
Georgia	18,960	7	2000	
Idaho*	2,520	6	1998	
Illinois	30,880	7	1999	
Indiana	8,210	7	2001	
Iowa*	2,290	7	2000	
Kansas	5,020	7	2000	
Kentucky	2,460	8	2002	
Louisiana*	1,540	7	2000	
Maryland	7,230	8	2000	
Massachusetts	4,900	7	1999	
Michigan	4,830	7	1999	
Minnesota	4,780	7	1999	
Mississippi*	1,200	8	2003	
Missouri	2,760	8	2002	
Nebraska	2,690	5	1999	
Nevada	11,370	7	1999	
New Jersey	14,680	8	2000	
New Mexico	5,190	5	2000	
New York	24,570	8	1999	
North Carolina	21,940	8	2000	
Ohio	3,570	6	2000	
Oklahoma	5,650	7	1999	
Oregon	8,960	7	1999	
Pennsylvania	4,180	8	2000	
South Carolina	5,330	8	2000	

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Tennessee	6,990	7	2001	
Texas	97,970	7	2000	
Utah	7,810	7	1999	
Virginia	8,530	7	2001	
Washington	14,740	7	1999	
Wisconsin	5,990	7	2000	
United States	590,070	7	1999	1
◀ ▶				
Note: Data are presented for states with more than 1,000 DACA recipients as				
◀ ▶				

The protections of DACA reverberate beyond just individuals who are part of the program—their impacts can be felt among their families and communities as well. Twenty-three U.S. states are home to more than 10,000 people living in households with DACA recipients.

DACA recipients in the workforce

While DACA offers protection from deportation, it is also an avenue for recipients to reach their fuller potential in the formal work economy. Surveys of DACA recipients echo this: After receiving DACA, more than half of these recipients reported moving to jobs with better pay and benefits that are more closely aligned with their education and training or fitting their long-term career goals.

The gains, however, are more than just personal, as the entire country benefits from their career pursuits. Data show that more than three-quarters of DACA recipients in the workforce—343,000 people—were employed in jobs deemed essential by the Department of Homeland Security’s Cybersecurity and Infrastructure Security Agency, helping to keep the country running and safe at great personal risk. This number includes 34,000 health care workers providing patient care and another 11,000 individuals working in health care settings keeping these facilities functioning. It includes 20,000 educators, ensuring millions of children can continue learning in classrooms, and 100,000 working in the food supply chain as food travels from farms to dinner tables.

343,000
Number of DACA recipients employed in essential jobs

The Biden administration’s proposed rule to fortify and preserve DACA makes a notable change to the program. While, in the past, individuals applying for DACA were required to apply for both deferred action and work authorization, the proposed rule would allow applicants to apply only for deferred action with the option to also apply to work authorization, either at that time or in the future. This—along with an alternative scenario in which the Department of Homeland Security imagines a world where the courts do not allow work authorization to be granted to recipients—would potentially open the door to DACA only providing protection from deportation without work authorization. Considering the success DACA has played in the lives of its recipients and the beneficial impact DACA has had on economic recovery, work authorization remains a critical and necessary part of the program.

Fiscal and economic contributions of DACA recipients and their households

Nationally, DACA recipients and their households make major economic and fiscal contributions each year. CAP analysis finds that DACA recipient households pay \$6.2 billion in federal taxes and \$3.3 billion in state and local taxes each year.

DACA recipients and their households are critical, too, in local economies. After taxes, these households hold \$25.3 billion in spending power. They own 68,000 homes, making \$760 million in mortgage payments and \$2.5 billion in rental payments annually, money that could be in jeopardy if DACA goes away.

The table below provides state level data on these economic and fiscal contributions.

Table 2

Annual tax contributions, spending power, and housing payments of DACA recipient households, by state

State	Federal taxes	State and local taxes	Spending power	Number of homes owned
Alabama	\$48.8M	\$16.4M	\$179.6M	
Arizona	\$149.6M	\$92.3M	\$763.8M	3,500
Arkansas	\$29.6M	\$20.9M	\$157.6M	900
California	\$2.1B	\$1.0B	\$8.2B	10,400
Colorado	\$123.3M	\$62.7M	\$557.1M	2,400
Connecticut	\$38.4M	\$21.8M	\$136.8M	
Delaware	\$9.6M	\$3.8M	\$52.9M	
Florida	\$173.5M	\$71.7M	\$784.3M	2,400
Georgia	\$151.1M	\$88.1M	\$712.0M	2,700
Idaho	\$18.9M	\$9.8M	\$91.0M	
Illinois	\$326.2M	\$217.0M	\$1.3B	4,800
Indiana	\$42.1M	\$29.5M	\$218.8M	1,500
Iowa	\$19.8M	\$13.3M	\$94.2M	700
Kansas	\$31.3M	\$22.9M	\$166.6M	800
Kentucky	\$29.0M	\$16.1M	\$122.3M	
Louisiana	\$12.7M	\$7.5M	\$63.7M	500
Maryland	\$86.3M	\$51.3M	\$357.7M	800
Massachusetts	\$65.6M	\$30.2M	\$241.1M	500
Michigan	\$37.6M	\$20.9M	\$174.4M	700
Minnesota	\$50.5M	\$27.2M	\$207.5M	400

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Mississippi	\$5.4M	\$3.6M	\$29.4M	
Missouri	\$18.1M	\$10.5M	\$87.9M	
Nebraska	\$53.8M	\$21.7M	\$157.0M	
Nevada	\$119.7M	\$38.8M	\$489.3M	1,5
New Jersey	\$229.5M	\$112.8M	\$793.4M	8
New Mexico	\$30.6M	\$18.9M	\$152.0M	1,0
New York	\$430.5M	\$261.5M	\$1.4B	1,5
North Carolina	\$137.0M	\$83.9M	\$712.8M	4,7
Ohio	\$26.9M	\$17.1M	\$125.6M	1,7
Oklahoma	\$32.6M	\$24.7M	\$181.2M	
Oregon	\$123.5M	\$58.7M	\$483.3M	1,7
Pennsylvania	\$47.6M	\$24.0M	\$176.2M	
South Carolina	\$33.4M	\$18.8M	\$174.2M	9
Tennessee	\$41.3M	\$23.7M	\$234.8M	1,0
Texas	\$782.7M	\$436.8M	\$3.7B	14,0
Utah	\$65.1M	\$32.9M	\$305.5M	1,7
Virginia	\$118.8M	\$54.8M	\$443.0M	7
Washington	\$210.8M	\$97.4M	\$774.1M	1,5
Wisconsin	\$44.6M	\$30.7M	\$223.9M	1,5
United States	\$6.2B	\$3.3B	\$25.3B	68,4

Note: Data are presented for states with more than 1,000 DACA recipients as of June 30, 2021. Some data are not available due to small sample sizes.

Conclusion

DACA has been a positive force not just for recipients but also for families and communities across the country. Their contributions as the economy recovers are real, but a pathway to citizenship would boost these to new heights, especially as the United States tracks its course for economic recovery.

Solidifying DACA is an important step, but the potential removal of work authorization from its protections is an example of how the program remains vulnerable, ultimately threatening the livelihoods of DACA recipients and their families.

The only way to extend permanent protections to current DACA recipients, to those locked out of the program, and to the undocumented community more broadly is via a pathway to citizenship. Congress must act to do so.

Authors' note: This column contains updates to the Center for American Progress' 2019 and 2020 columns on national and state-by-state impacts of DACA recipients.

Methodology

The data in this column are based on CAP analysis of two years of pooled American Community Survey (ACS) microdata: the 2018 1-year and 2019 1-year ACS, accessed via the [University of Minnesota’s IPUMS USA](#). These are the most recent data collected by the ACS, but it is important to note that it reflects years before the coronavirus pandemic. It also uses the most recent number of active DACA recipients, 590,070 as of June 30, 2021, as reported by [U.S. Citizenship and Immigration Services](#).

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A Demographic Profile of DACA Recipients on the Frontlines of the Coronavirus Response

By [Nicole Prchal Svajlenka](#) | April 6, 2020, 9:01 am



Getty/B.A. Van Sise

A doctor stands in the middle of the makeshift COVID-19 screening center outside Elmhurst Hospital in Queens, New York, April 2020.

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Across the country, 202,500 DACA recipients are working to protect the health and safety of Americans as the country confronts COVID-19. They are ensuring that children are still being educated; food is still being grown, packaged, cooked, shipped, and put on the shelves of grocery stores; patients are being cared for; and much more. DACA recipients, for example, are [doctors and medical students, putting their own health and safety on the line](#). They are also teachers, striving to provide a sense of [well-being and continuity](#) to America’s youngest generation remotely. Such roles are crucial at a time when the United States is facing a critical shortage of workers in [both professions](#).

This column looks at the demographics of DACA recipients who are working on the frontlines of the COVID-19 response, highlighting three inextricably linked industries and occupation groups identified as “[essential critical infrastructure workers](#)” by the Department of Homeland Security (DHS). According to the guidance, these are “essential workers needed to maintain the services and functions Americans depend on daily and that need to be able to operate resiliently during the COVID-19 pandemic response.” Many governors who have issued [stay at home orders](#) have adopted some or all of DHS’s guidelines on these 17 wide-ranging sectors into their list of essential workers.

Table 1

Across the country, DACA recipients are working in occupations at the forefront of the COVID-19 response

Number of DACA recipients working in health care, education, and food-related jobs, by state

State	Number of DACA recipients
Alabama	1,100
Alaska	N/A
Arizona	6,800
Arkansas	1,500
California	56,900
Colorado	4,300
Connecticut	1,300
Delaware	N/A

Health care

Health care workers may be the most visibly important force in the fight against COVID-19, working long hours at great personal risk to themselves to diagnose and treat the disease. An estimated 29,000 health care workers are DACA recipients. The table below identifies DACA recipients in [Bureau of Labor Statistics-defined categories](#).

Table 2

DACA recipients work across all different types of roles in health care

Major occupation groups and selected individual occupations, by Standard Occupational Classification (SOC)

Home health and personal care aides, nursing assistants, orderlies, and psychiatric aides (SOC Code: 31-1100)	8,500
Nursing, psychiatric, and home health aides	4,800
Personal care aides	3,700
Other health care support occupations (SOC Code: 31-9000)	7,300
Medical assistants	3,700
Dental assistants	2,000
Health care diagnosing or treating practitioners (SOC Code: 29-1000)	6,400
Registered nurses	3,400
Health technologists and technicians (SOC Code: 29-2000)	6,000
Licensed practical and licensed vocational nurses	1,900
Health practitioner support technologists and technicians	1,600

Not surprisingly, states with the most DACA recipients are also home to the largest number of DACA recipients working in health care occupations: California (8,600), Texas (4,300), New York (1,700), Illinois (1,400), Florida (1,100), Arizona (1,000), and Washington (1,000) are all home to sizable numbers of these frontline health workers.

This list (Table 2) of essential health care and public health workers, though, goes far beyond these nurses, lab techs, and home health aides, as the DHS delineation of essential workers covers a wide range of both industries and occupations. The difference may appear to be an unimportant detail relegated to a footnote, but it is crucial—industries cover where people work, while occupations cover what people do while they are at work.

For example, while CAP analysis finds 29,000 DACA recipients who are frontline health care workers in the roles we typically associate with the medical field, it finds another 12,700 DACA recipients who work in the health care industry in critical roles such as custodians, food preparers, and management or administrators—including 4,100 DACA recipients working in hospitals and 1,700 in residential facilities such as nursing homes. The [Center for Migration Studies](#) recently published

research on DACA recipients in essential sectors, with an industry-specific analysis highlighting this wider net of individuals.

Education

Another group of essential workers who have been required to adapt quickly to COVID-19 are educators. Across the United States, 14,900 DACA recipients are among the hundreds of thousands of teachers who have [pivoted from the physical to the digital classroom](#), including 4,300 in California, 2,800 in Texas, and 1,000 in Illinois.

Food

From farms to grocery stores and distribution centers to restaurants, more than a quarter of employed DACA recipients—142,100—work in food-related occupations or industries across the country. Despite the fact that this sector includes so many different occupations, all food-related workers are undoubtedly impacted by COVID-19 in one way or another.

On the production end, 12,800 DACA recipients work in the farming and agriculture industry—with the vast majority as agricultural laborers—and 11,600 DACA recipients work in the food manufacturing industry, processing these agricultural products into a food product that can be sold.

To distribute food from production to its end users, 4,700 DACA recipients work in food-related wholesale trade, and 8,800 DACA recipients work in food warehousing, transportation, and delivery.

Another group of essential food-related workers are those keeping grocery stores open and operable. That includes 14,900 DACA recipients, employed in roles such as cashiers (6,000); stockers and laborers (2,900); and supervisors (1,200).

The majority of DACAmented workers in this industry are working in restaurants or food service establishments (82,200). This includes 23,700 servers; 20,800 cooks and prep workers; and 10,800 cashiers. While carryout restaurants and quick service food operations are deemed essential by DHS, dining in remains widely shuttered, and the [restaurant industry](#) has seen remarkable closures and layoffs.

And these statistics likely don't capture another critical group: DACAmented warehouse workers, now playing a larger role in moving food directly to consumers across the country, along with gig economy delivery drivers.

Conclusion

As recently [profiled in a CAP publication](#), DACA recipients such as paramedic Jesus Contreras and Dr. Ever Arias are providing critical medical services to help those affected by COVID-19. Whether in health care, education, food services, and other critical professions, DACA recipients are stepping up at a time when America needs them most.

With a Supreme Court decision regarding the Trump administration's ongoing efforts to end DACA looming, it is critical that the court alleviate the fear and uncertainty that DACA recipients and their families are facing today by affirming the unanimous decisions of the lower courts protecting DACA today. During this time of uncertainty, rather than rip these and hundreds of thousands of other DACA recipients out of the workforce, the Trump administration should immediately extend work permits of at least those DACA recipients whose protections recently have expired or are set to expire in 2020. Without question, now is not the time for the Court to permit the administration to recklessly end DACA and it is not the time to take any actions that may jeopardize the health and safety of the nation.

Nicole Prchal Svajlenka is the associate director for research on the Immigration team at the Center for American Progress.

Methodology

The findings presented in this column are based on CAP analysis of three years of pooled American Community Survey microdata—the 2016 1-year, 2017 1-year, 2018 1-year ACS, accessed via the [University of Minnesota's IPUMS USA](#). Aggregating three years of data results in three times the number of samples, allowing researchers to drill deeper into smaller crosstabulations with higher levels of confidence. The analysis is benchmarked to the latest data filed as evidence in *Regents of the University of California, et al. v. U.S. Department of Homeland Security, et al.*, which show 643,430 active DACA recipients as of March 31, 2020. The data are on file with CAP.

This analysis defines occupational categories using the [2018 Standard Occupational Classification \(SOC\) system](#). Health care workers include "Healthcare practitioners and technical occupations" and "Healthcare support occupations." Educators include "Postsecondary teachers," "Preschool, elementary, middle, secondary, and special education teachers," "Other teachers and instructors," and "Other educational instruction and library occupations," which mainly includes teaching assistants. It excludes "Librarians, curators, and archivists."

The estimate for health care workers presented here is slightly higher than CAP's previous estimate of [27,000 DACA recipients](#). The largest factor in this are 2018 revisions to the SOC. Where possible, all 2016 and 2017 ACS data were updated from the 2010 SOC into the 2018 SOC. [Two changes](#) are relevant to health care workers. First, occupational health and safety specialists and technicians were moved from "Healthcare Practitioners and Technical Occupations" to "Life, Physical and Social Science Occupations." Second, personal care aides were added to "Healthcare Support Occupations" from "Personal Care and Service Occupations."

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IMMIGRATION

What We Know About DACA Recipients in the United States

By [Nicole Prchal Svajlenka](#) | September 5, 2019, 9:00 am



Getty/Cyrus McCrimmon

A seventh-grade English teacher and DACA recipient works with her students in Denver, December 2014.

Note: Newer data on DACA recipients can be found in “[What We Know About the Demographic and Economic Impacts of DACA Recipients: Spring 2020 Edition](#)” by Nicole Prchal Svajlenka and Philip E. Wolgin.

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Two years ago, the Trump administration announced an end to [Deferred Action for Childhood Arrivals \(DACA\)](#), leaving [hundreds of thousands](#) of young undocumented immigrants in the dark. Despite President Donald Trump's promise that he had "[great heart](#)" when it came to Dreamers, DACA recipients and their families face an uncertain future. Congress remains unable to enact permanent protections for them, and the U.S. Supreme Court is preparing to hear [arguments in November](#) to determine whether the administration's rescission effort was unlawful.

The [consensus is overwhelmingly clear](#): The [American public](#) is on the side of these young people and believes they should have the [opportunity to remain here permanently](#) and be put on a [pathway to citizenship](#). DACA recipients grew up in the United States and have established their lives and futures in the country. Beyond that, they are contributing to the economy in ways that benefit the entire nation. Using the 2017 1-year American Community Survey (ACS), Center for American Progress analysis shows the many ways in which the 661,000 active DACA recipients are woven into the social and economic fabric of the United States. (see Methodology)

[Two things](#) that every DACA recipient has in common are that they arrived in the United States prior to turning 16 and that they have lived here since 2007. These things mean that most DACA recipients have spent the majority of their lives in the United States. CAP's analysis finds that the average DACA recipient arrived in the United States in 1999, when they were just 7 years old. More than one-third of DACA recipients, 37 percent, arrived before age 5.

DACA recipients contribute to their communities and the economy

As DACA recipients have grown up in the United States, they have graduated from school, embarked on careers, and started families of their own. According to the CAP analysis of ACS microdata, nearly 256,000 U.S.-born, and thus U.S.-citizen, children have at least one parent who is a DACA recipient. Across the country, 1.5 million individuals live with a DACA recipient.

Researchers have documented countless ways that DACA has improved the lives of these young people. DACA has opened doors to [higher education and job training programs](#), along with opportunities to pursue [better-paying jobs](#) that are more aligned with recipients' long-term career goals. Many DACA recipients have also become [civically and politically engaged](#), participating in actions related to immigrants' rights and civil rights with the belief that they can make a positive difference in U.S. society.

And the reach of DACA extends beyond family and community to the economy more broadly. According to the CAP analysis of ACS microdata, while slightly more than one-third of DACA recipients are enrolled in school, those who are working are employed in a wide range of occupations. The largest occupation groups for DACA recipients are food preparation and office and administrative support at 66,000 workers each, as well as sales at 61,000 workers. Other notable fields include management and business occupations, in which 28,000 DACA recipients are employed; education and training occupations, with 16,000 DACA recipients employed; and health care practitioner and support occupations, with 27,000 DACA recipients employed.

These individuals work in different sectors of the economy too. According to the CAP analysis of ACS microdata, nearly 6,000 DACA recipients are self-employed in an incorporated business, while 25,000 work in nonprofit organizations and 22,000 work in the public sector.

Each year, DACA recipients also make major fiscal contributions to the economy. According to the CAP analysis of ACS microdata, DACA recipients and their households pay \$5.7 billion in federal taxes and \$3.1 billion in state and local taxes annually. In addition to this, DACA recipients boost [Social Security and Medicare](#) through payroll taxes. DACA recipients and their households hold a combined \$24.1 billion in spending power—or income remaining after paying taxes—each year. (see [Methodology](#))

As community members, DACA recipients make substantial rental and mortgage payments, much of which goes directly into their local economies. DACA recipients own 59,000 homes and are directly responsible for \$613.8 million in annual mortgage payments. Rental payments are even more staggering: DACA recipients pay \$2.3 billion in rent to their landlords each year. (see [Methodology](#))

Conclusion

DACA has had—and continues to have—wide-ranging positive impacts that go beyond the lives of DACA recipients and their families. On the whole, the United States benefits from the social and economic contributions of DACA recipients. Allowing DACA to end would leave hundreds of thousands of young people unable to work lawfully in this country and expose them to the threat of detention and deportation. Not only would this be heartless, but it would also jeopardize the many contributions that DACA recipients make to U.S. society and the national, state, and local economies every day.

Methodology

The findings presented in this column are based on CAP analysis of 2017 1-year American Community Survey microdata, accessed via the [University of Minnesota's IPUMS USA](#). For the purpose of measuring the overall number of DACA recipients, this column uses the latest data filed as evidence in *Regents of the University of California, et al. v. U.S. Department of Homeland Security, et al.*; the data are on file with the author. The data show 660,880 active DACA recipients as of June 30, 2019.

Household tax contributions and spending power estimates are based on methodology developed by [New American Economy](#) and include all households that contain a DACA recipient. The tax rates applied to the microdata come from the [Congressional Budget Office](#) and the [Institute on Taxation and Economic Policy](#). Spending power is measured as household income after federal, state, and local tax contributions; these data are based on household incomes, which are available in the ACS microdata.

The analysis calculates mortgage and rental payments for households in which a DACA recipient is the head of household or the spouse or unmarried partner of a head of household. Monthly payment information is aggregated from the ACS microdata.

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The Effects of DACAmentation: The Impact of Deferred Action for Childhood Arrivals on Unauthorized Immigrants[☆]



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ABSTRACT

As the largest immigration policy in 25 years, Deferred Action for Childhood Arrivals (DACA) made deportation relief and work authorization available to 1.7 million unauthorized immigrants. This paper looks at how DACA affects DACA-eligible immigrants' labor market outcomes. I use a difference-in-differences design for unauthorized immigrants near the criteria cutoffs for DACA eligibility. I find DACA increases the likelihood of working by increasing labor force participation and decreasing the unemployment rate for DACA-eligible immigrants. I also find DACA increases the income of unauthorized immigrants in the bottom of the income distribution. I find little evidence that DACA affects the likelihood of attending school. Using these estimates, DACA moved 50,000 to 75,000 unauthorized immigrants into employment. If the effects of Deferred Action for Parents of Americans and Lawful Permanent Residents (DAPA) are similar to DACA, then DAPA could potentially move over 250,000 unauthorized immigrants into employment.

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1. Introduction

The United States has the largest immigrant population of any nation in the world. With 40.7 million people,¹ the United States has four times as many foreign-born residents than any other country.² However, in the United States, 11.4 million of these individuals, or 3.6% of the entire US population, are unauthorized immigrants and have no legal status (Baker and Rytina, 2013). These unauthorized immigrants face a unique set of challenges to their economic well-being compared to citizens and authorized immigrants. Some of these challenges include the threat of deportation, lack of legal work authorization, and insufficient documentation for banking, loans, and driver's licenses. These challenges likely contribute to unauthorized immigrants' below-average levels of income, educational attainment, and above-average levels of unemployment (Fortuny et al., 2007; Rivera-Batiz, 1999; and Smith, 2006).

Due to the unique challenges unauthorized immigrants face, extensive political debate has occurred over what immigration policies should be implemented to help improve unauthorized immigrants' economic well-being without incentivizing additional illegal immigration. On June 15, 2012, President Obama used his prosecutorial discretion and announced Deferred Action for Childhood Arrivals (DACA). This announcement directed the Department of Homeland Security to accept applications for DACA from unauthorized immigrants who had arrived in the United States as children (under the age of 16) and were under the age of 31 as of June 15, 2012. Individuals whose applications are accepted receive two years of deportation relief and work authorization. Continued DACA approval is conditional on renewal every two years. With 1.7 million unauthorized immigrants potentially eligible (Passel and Lopez, 2012), DACA has provided relief from deportation and work authorization to more unauthorized immigrants than any other immigration policy since the 1986 Immigration Reform and Control Act (Baker, 2014).

Without work authorization, documentation for loans and driver's licenses, and with the possibility of deportation, unauthorized immigrants have additional labor market frictions than do authorized immigrants and citizens. DACA-eligible unauthorized immigrants could potentially reduce these labor market frictions and improve their labor market outcomes by applying for and obtaining DACA.

[☆] I would like to thank Michael Greenstone, Kareem Haggag, Steven Levitt, Magne Mogstad, Derek Neal, and Nathan Petek for helpful comments and discussion.

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¹ Census Bureau.

² United Nations, Department of Economic and Social Affairs, Population Division

Particularly, I use three different measurements of employment to look at how the reduction of labor market frictions through DACA has affected unauthorized immigrants likelihood of working. I estimate whether these changes in the likelihood of working stem from changes in labor force participation or unemployment. Importantly, I estimate how these changes in working affect the income of unauthorized immigrants throughout the income distribution. Lastly, I look at whether DACA affects schooling decisions through its substitutability with working.

In this paper, I look at how DACA affects DACA-eligible immigrants' labor market outcomes through the reduction of labor market frictions. To do so, I use American Community Survey (ACS) data on over 400,000 immigrants and 5 million citizens ages 18–35 from 2005 to 2014. I estimate the effect of DACA by using a difference-in-differences empirical design. To enhance validity, I estimate the effect of DACA by performing the difference-in-differences estimation for samples of unauthorized immigrants who are just above and below DACA eligibility cutoffs. Specifically, I look at unauthorized immigrants who were just above and below the age of 16 when they entered the United States and those who were just above and below the age of 30 on June 15, 2012. In addition, I test for selection into the ACS sample of unauthorized immigrants and for differential pre-trends that may bias the results.

I find DACA has had large effects on DACA-eligible individuals' labor market outcomes, and find suggestive evidence for some schooling decisions. For DACA-eligible individuals, DACA has increased the likelihood of working by 3.7–4.8 percentage points and the number of hours worked per week by 0.9–1.7 hours. The increase in the likelihood of working and in the number of hours worked per week comes from both an increase in labor force participation and a decrease in unemployment. These estimates provide a lower bound on the intent-to-treat effect of DACA which may be as much as 1.6 times larger. In addition, the increased likelihood of working has increased the income for those in the bottom of the income distribution. Despite the increased employment, I find little evidence that DACA has influenced the likelihood of an individual being self-employed. Within two years of implementation, DACA moved 50,000–75,000 unauthorized immigrants into employment.

Since one of the requirements for obtaining DACA is to have a high school diploma or a General Educational Development (GED) certificate, I also test whether DACA had affected unauthorized immigrants' educational attainment. I find suggestive evidence that DACA pushed over 25,000 DACA-eligible individuals into obtaining their GED certificate in order to be eligible for DACA. Although working and attending school are likely substitutes, and DACA has had a positive effect on the likelihood of working, I find little evidence that DACA has affected the likelihood of attending school.

The difference-in-differences results directly answer the policy question of how DACA has affected its target population. The results also inform future immigration policies on how a reduction in labor market frictions through deferred action and work authorization might affect the larger unauthorized immigrant population. Particularly, the findings shed light on how the Deferred Action for Parents of Americans and Lawful Permanent Residents (DAPA) policy, which expands DACA and gives deferred action and work authorizations to most unauthorized immigrants who have children that are citizens, might affect the 3.7 million eligible unauthorized immigrants.³ If the effects of DAPA are similar to the effects of DACA, then DAPA could move over 250,000 unauthorized immigrants into employment. However, due to the demographic differences between the DAPA-eligible and DACA-eligible populations, the effects of the two policies may not be similar. The results demonstrate that illegal

status hurts young immigrants' ability to work, by keeping them out of the labor force and unemployed. Even in a short two-year time span, deferred action and work authorization helped young unauthorized immigrants find employment.

Due to the recency of DACA and data limitations, little work has looked at how DACA affects unauthorized immigrants. A few studies using small sets of survey data have provided suggestive evidence of an increase in job changes, employment, and decreases in school attendance (Gonzales et al., 2014; and Kosnac et al., 2014). However, these studies only have a few DACA-eligible individuals in their sample and are mostly descriptive studies that lack causal identification. In concurrent work, Amuedo-Dorantes and Antman (2016) use monthly Current Population Survey data along with a difference-in-differences strategy to look at the effect of DACA. Although they effectively use their difference-in-differences strategy, their analysis is limited by a small sample size of 11,526 non-citizens of which only a small fraction are eligible for DACA after its availability (400–450 individuals). They find DACA reduces school enrollment for these 450 DACA-eligible individuals, and provide some evidence of an increase in the likelihood of working for men. The limited sample size prevents them from looking at labor market outcomes with enough precision to detect sizable changes. This paper uses over 400,000 non-citizens and over 5 million citizens to estimate the effect of DACA on labor market and schooling outcomes. Similar to Amuedo-Dorantes and Antman (2016), I find positive effects of DACA on employment for men. I also find positive effects of DACA on employment for women. In addition, I find beneficial effects of DACA on labor force participation, unemployment, and number of hours worked per week. I also find increases in income for those in the bottom of the income distribution. However, in contrast to their results, I find no evidence of an effect of DACA on school attendance. This difference in the effect on school enrollment may be due to sampling error from their small sample size or because of strong differential pre-trends in school attendance that are observed. In addition, this paper provides a detailed analysis of the effect of DACA by income quantile, uses citizens as an additional control group, and provides tests for sample selection that may potentially bias the results.

This paper is also closely related to work done on the 1986 Immigration Reform and Control Act (IRCA). The IRCA granted amnesty and a pathway to citizenship to approximately 2.8 million unauthorized immigrants (Baker, 2014). Most studies have found the IRCA increased unauthorized immigrants' incomes (Bratsberg et al., 2002; Kossoudji and Cobb-Clark, 2002; Orrenius and Zavodny, 2012; and Rivera-Batiz, 1999), decreased crime rates (Baker, 2014), increased educational attainment (Cortes, 2013), and had little effect on long-term patterns of undocumented immigration (Orrenius and Zavodny, 2003). However, Amuedo-Dorantes and Bansak (2011) and Amuedo-Dorantes et al. (2007) have also found that unauthorized immigrants' labor force participation decreased and unemployment rates rose. In addition to the IRCA, Kaushal (2006) found that the 1997 amnesty program, the Nicaraguan Adjustment and Central American Relief Act (NACARA), increased the real wages of undocumented foreign-born men from affected countries by 3%.

Although both are major immigration policies, the IRCA and DACA differ in many ways that may cause them to affect unauthorized immigrants differently. The largest difference is that the IRCA gave amnesty and a pathway to citizenship, whereas DACA gives only two years of deportation relief and work authorization. The IRCA was also implemented when fewer legal barriers to employing unauthorized immigrants existed. Lastly, the two policies are more than 25 years apart with different labor markets. NACARA was implemented on a much smaller scale than either the IRCA or DACA and was implemented over 15 years ago.

The rest of the paper will proceed as follows. Section 2 describes the timing, benefits, and eligibility criteria of DACA. Section 3

³ <http://migrationpolicy.org/news/mpi-many-37-million-unauthorized-immigrants-could-get-relief-deportation-under-anticipated-new>

describes the ACS data. Section 4 develops a conceptual framework for interpreting the results. Section 5 describes the difference-in-differences methodology and the samples used for the analysis. Section 6 reports the results of how DACA affects eligible unauthorized immigrants. Section 7 discusses how the results can help inform current and future immigration policy. Section 8 concludes.

2. Deferred Action for Childhood Arrivals

On June 15, 2012, from the Rose Garden, President Obama used his prosecutorial discretion and announced Deferred Action for Childhood Arrivals (DACA). This announcement directed the Department of Homeland Security to accept applications for DACA from qualified unauthorized immigrants. Individuals whose applications are accepted receive deferred action, which gives them two years of relief from deportation and work authorization. Continued DACA eligibility is conditional on renewal every two years.

After the announcement of DACA in June 2012, the Department of Homeland Security's Citizenship and Immigration Services (USCIS) started accepting applications for DACA on August 15, 2012. To apply for DACA, individuals have to fill out three forms, pay a processing fee of 465 dollars, and provide documentation that they meet the eligibility criteria. Although many forms and documentation are required, over 90% of processed applications are approved. The USCIS estimated applications would take 4–6 months to be processed. By the end of 2012, over 100,000 unauthorized immigrants' DACA applications had been approved. By the end of 2013 and 2014, over 500,000 and 600,000 DACA applications had been approved, respectively. Fig. 1 uses data reported by the USCIS⁴ and shows the number of DACA applications approved over time. The black line represents the number of DACA applications approved in each quarter of the year. The gray bars represent the cumulative number of DACA applications approved. As Fig. 1 shows, very few DACA applications were approved until the last quarter of 2012, and the bulk of DACA applications were approved over the span of a year, from October, 2012 to September, 2013.

To qualify for DACA, unauthorized immigrants have to meet six criteria⁵: (1) applicants had no lawful status as of June 15, 2012 (i.e., an unauthorized immigrant as of June 15, 2012); (2) applicants came to the United States before the age of 16; (3) applicants must have been under the age of 31 as of June 15, 2012; (4) applicants must also have continuously resided in the United States since June 15, 2007; (5) applicants must be currently in school, have graduated or obtained a certificate of completion from high school, have obtained a General Education Development (GED) certificate, or be an honorably discharged veteran of the Coast Guard or Armed Forces of the United States; (6) applicants cannot have been convicted of a felony, significant misdemeanor, or three or more other misdemeanors. In addition to these DACA qualification criteria, an individual must be 15 years or older to submit the DACA application. To prove they meet these requirements, individuals must submit documentation from a list of approved sources given by the USCIS. For example, passports or birth certificates from an individual's country of origin are required to prove an individual's age, and school or medical records are used to prove an individual came to the United States before the age of 16.

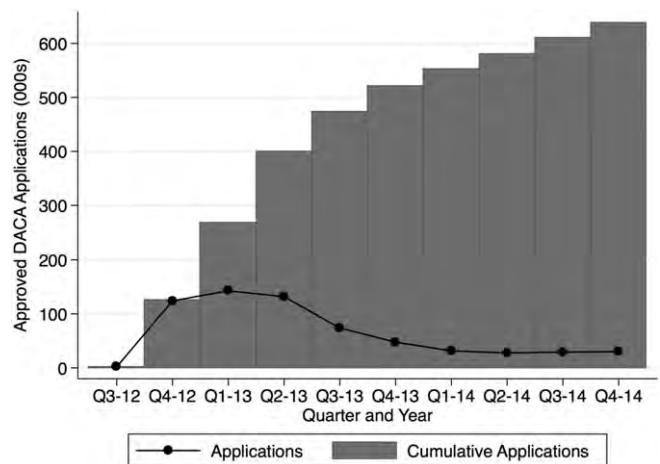


Fig. 1. Number of approved DACA applications by quarter. Note: The black line represents the number of DACA applications approved in a given quarter. The bars represent the cumulative number of DACA applications approved by a given quarter. The y-axis shows the number of approved applications in thousands. The x-axis shows the quarter and year.

To better understand these criteria, a breakdown of the United States' unauthorized immigrant population is helpful. As of January 2012, the Department of Homeland Security estimated 11.4 million unauthorized immigrants were living in the United States (Baker and Rytina, 2013). Of these, 80% were from Central and South America and 59% were from Mexico. Approximately 4.4 million of the 11.4 million unauthorized immigrants were under the age of 31 as of June 15, 2012. Of these 4.4 million, approximately 950,000 were immediately eligible for DACA (Passel and Lopez, 2012). In addition, approximately 770,000 were potentially eligible in the future. Of these 770,000 individuals, 450,000 met all the qualification criteria but were currently under the age of 15. The other approximately 320,000 individuals met all the qualification criteria but had no high school diploma or GED certificate. Although individuals have to pay money, they may be wary of future deportation from applying, and must obtain substantial documentation, by the end of 2014, 67% of the 950,000 individuals immediately eligible for DACA had been approved.⁶ The composition of DACA-approved individuals' nationality was somewhat similar to that of the unauthorized immigrant population as a whole, with 92% from Central and South America and 78% from Mexico.

Clearly, the reason for so many individuals willing to take the time and money to apply for DACA is the perceived benefits from DACA approval. The two most obvious, and likely the largest, benefits of DACA approval are relief from deportation and work authorization. Individuals with DACA receive deferred action in which all removal actions are deferred and individuals are authorized to be present in the United States. Along with this deferred action, DACA recipients are legally allowed to work in the United States. Many smaller benefits accompany these two main benefits. DACA recipients receive a Social Security Number, which allows them to legally open a bank account and build a credit history. In all states, except Arizona and Nebraska, DACA recipients can legally obtain a driver's license.⁷ However, DACA recipients are not eligible for federal welfare or federal student aid.

⁴ <http://www.uscis.gov/tools/reports-studies/immigration-forms-data/data-set-deferred-action-childhood-arrivals>

⁵ <http://www.uscis.gov/humanitarian/consideration-deferred-action-childhood-arrivals-daca>

⁶ <http://www.uscis.gov/tools/reports-studies/immigration-forms-data/data-set-deferred-action-childhood-arrivals>

⁷ <http://www.nilc.org/dacadriverslicenses2.html>

3. Data

The main data used to look at the effects of DACA are individual-level data from the American Community Survey (ACS). I use ACS data from 2005 to 2014. I start with the 2005 ACS sample because it is the first year with a full one-percent sample of the United States. The 2014 ACS sample is the most recent sample available. The ACS data provide eight years of data prior to DACA and two years after. The collection of ACS data in each year is evenly distributed between each month of the year. The ACS provides many outcomes of interest including if individuals are working, in the labor force, unemployed, self-employed, their income, number of hours worked per week, whether they obtained a GED, and whether they are in school. It also provides a rich set of demographic information on individuals to be used as controls.

The ACS includes questions that allow me to focus on the unauthorized immigrant population and determine if individuals are DACA eligible. The most difficult DACA qualification criteria to identify in the ACS is whether the individual is an unauthorized immigrant. The ACS asks each individual if they are a US citizen. No additional information on legal status is available if the individual is a non-citizen. The Census Bureau and the Department of Homeland Security estimate that nearly 40% of these non-citizens are authorized immigrants (Acosta et al., 2014, Baker and Rytina, 2013). Although the variable non-citizen includes all unauthorized immigrants, it also includes many authorized immigrants. In the *Empirical method* section, I will discuss how this inclusion of authorized immigrants causes the analysis to underestimate the intent-to-treat effect of DACA.

These ACS data also include questions that allow me to identify individuals who meet the other DACA qualification criteria. The ACS question on quarter of birth allows me to determine the age of each individual as of June 30, 2012, and whether they are under the age of 31. Using the question on how long the individual has resided in the United States, along with their age, I determine the age at which each individual entered the United States. This question also allows me to identify if the individual has been in the United States for at least five years. Using the ACS question on education, I can determine individuals' educational attainment. To limit the sample to only individuals who meet DACA's education requirement, I restrict my sample to only individuals who have a high school degree. Lastly, whether an individual has committed a felony or significant misdemeanor is not observed. I create the variable "eligible" for whether an individual meets all of the DACA qualifications as of June 15, in the year prior to the individual's ACS sample year (except for having committed a crime or not).

To better understand how unauthorized immigrants are included in the ACS data, the sampling process for the ACS is as follows. First, the Census Bureau uses its Master Address File, which is an inventory of all known housing units and group quarters, as the sample frame from which the Census Bureau draws its sample for the ACS. The Census Bureau estimates that from 2005 to 2014, the Master Address File covers the housing for 92.5–94.0% of the entire US population. Each month, a systematic sample of addresses is drawn from the Master Address File to represent each US county. The ACS survey is then mailed to the selected sample at the beginning of the month. Nonrespondents are then contacted by telephone one month later for a computer-assisted telephone interview. One third of the nonrespondents to the mail or telephone survey are then contacted in person to complete the ACS survey one month following the telephone survey attempt. The Census Bureau reports that from 2005 to 2014, 65.5–68.7% of the addresses selected for the sample completed the survey. Of those contacted in person, 96.7–98.0% completed the survey.

In addition to the details of the ACS sampling procedure, understanding how the sampling and interview process relate to being an unauthorized immigrant is important. In regards to the ACS

and unauthorized immigrants, the Census Bureau states, "The ACS interviews the resident population without regard to legal status or citizenship."⁸ The fact that the ACS conducts interviews without regard to legal status can be more easily seen as the sampling and interview process is broken down. First, because the sample frame is created by using the near universe of US addresses, unauthorized immigrants are no more or less likely to be selected into the sample frame than are authorized immigrants or citizens. Second, because a systematic sample of address are drawn from the sample frame, unauthorized immigrants are no more or less likely to be selected to be sent the ACS survey. Therefore, the ACS sampling does not select a specific type of unauthorized immigrant to be included in the ACS, but is representative of the unauthorized immigrant population in the United States. The ACS sampling procedure supports the assertion that the estimates from this paper are informative about DACA-eligible unauthorized immigrants as a whole. Also, because the sampling procedure did not change between 2005 and 2014, and unauthorized immigrants were sampled in the same way before and after DACA became available, the selection of unauthorized immigrants into the sample will not affect the results. Although the ACS did not sample a specific type of unauthorized immigrant or change its sampling procedure in such a way to detrimentally affect the results, potential concerns arise regarding how the survey and item response rates of unauthorized immigrants may affect the results. I discuss these concerns in the *Results* section along with tests to determine their potential influence on the results.

Using the ACS data, I analyze four main types of labor market and schooling outcomes. The first outcome is the likelihood of an individual to be working. The ACS provided three survey questions that help measure this outcome. They are a binary variable for whether an individual worked in the last week and in the last year, and a continuous variable for the usual number of hours worked each week. All three of these outcome variables provide insight into whether a person is working. The second type of outcome comprises three outcome variables that help describe the underlying reason for why a person is working or not. These three outcome variables are a binary variable for whether an individual is in the labor force or not, whether unemployed or not, and whether self-employed or not. These three outcome variables help break down how DACA is affecting the likelihood of working. The third type of outcome is an individual's income. The ACS income variable measures the total amount of income an individual receives from all sources in the last 12 months. This outcome variable is used to help determine if DACA improves recipients' economic well-being and stability. The last type of outcome comprises two variables that help describe the schooling choices of individuals. The outcome variables used are whether an individual is attending school and whether the individual has obtained a GED. I use the binary outcome variable of whether an individual is attending school, because working and attending school are likely substitutes for each other and DACA may have unattended effects on an individual's likelihood of attending school. I use the binary outcome variable of having obtained a GED, because a requirement for obtaining DACA is to have a high school diploma or a GED certificate, and DACA may therefore incentivize some unauthorized immigrants to obtain their GED. The exact wording from the ACS survey for each outcome and control variable is shown in the web appendix.

Table 1 shows the summary statistics for the sample of non-citizens ages 18–35 with at least a high school degree from 2005 to 2014. The first two columns show the summary statistics for the DACA-eligible and DACA-ineligible individuals, respectively. The third column shows the difference between the two groups' means

⁸ <https://www.census.gov/history/pdf/acsdesign-methodology2014.pdf>

Table 1
Summary statistics.

Variable	Mean		Difference	t-Statistic
	DACA Eligible	DACA Ineligible		
Working	65.3	66.5	−1.2	−3.3
In labor force	73.9	71.9	2.0	6.5
Unemployed	11.7	7.5	4.1	16.2
Income	15,787	24,358	−8,571	−31.8
Hours worked per week	27.1	28.6	−1.5	−9.1
Worked in past year	75.1	73.9	1.2	3.5
Self-employed	4.7	6.6	−1.9	−14.0
Attending school	32.0	21.6	10.4	28.1
GED	3.9	2.5	1.4	11.1
Years in US	15.5	6.4	9.1	144.4
Age entered US	8.4	22.3	−13.8	−287.3
Male	52.6	51.9	0.7	3.1
White	75.1	59.0	16.1	16.3
Black	9.3	9.0	0.2	0.4
Asian	14.5	30.7	−16.2	−27.5
Hispanic ethnicity	65.4	42.1	23.2	20.8
Home language of Spanish	63.6	41.3	22.3	20.3
Born in Latin America	72.4	47.4	24.9	30.9
Age	23.9	28.6	−4.7	−148.7
Married	24.0	51.4	−27.4	−88.6
Live in a metro area	92.4	92.9	−0.4	−1.9
High school degree	49.8	37.2	12.6	30.3
Some college	40.2	25.4	14.7	43.2
College degree	10.0	37.3	−27.3	−65.4
Observations	99,844	338,866		

Note: The sample for the summary statistics includes non-citizens who are ages 18–35 and have at least a high school degree and corresponds to the sample in Panel C of Table 2. All binary variables are represented in percent terms.

and the fourth column shows the *t*-statistic when testing the difference between the two means. The clearest differences between the two groups are that the DACA-eligible group tends to have entered the United States at a younger age and to be younger. In addition to the difference between the DACA-eligible and DACA-ineligible groups that can be seen in Table 1, both groups are more likely to be Hispanic, speak Spanish at home, live in a metro area, and have only a high school degree, compared to citizens of the same age (see Table A.3). In addition, both groups are about 6 percentage points less likely than citizens to be in the labor force or to be working. Although DACA-eligible individuals' incomes are much lower than citizens, DACA-ineligible individuals' incomes are similar to citizens.

4. Conceptual framework

In this section, I will look at the reasons why obtaining DACA may potentially affect the labor market and schooling outcomes of unauthorized immigrants and the potential consequences of these effects. First, I look at why obtaining DACA potentially affects unauthorized immigrants' labor market outcomes. Initially, DACA itself did not change the labor demand or the labor supply curves. DACA did not change employers' desire to hire a worker at a given wage. In addition, DACA did not change individuals' (citizens, authorized immigrants, and unauthorized immigrants) willingness to work at a given wage. However, DACA did reduce the frictions for DACA-eligible unauthorized immigrants to find employment, by providing work authorization, legal documentation for banking and driver's licenses, and removing potential deportation if discovered working illegally. These attenuations in frictions mainly arose from that fact that unauthorized immigrants who obtained DACA could now obtain employment from all potential employers instead of just employers who were willing to overlook individuals' legal work status. These attenuations in frictions allowed those who obtained DACA to have fewer barriers to working and to have more employment options.

As such, one would expect DACA to increase individuals' likelihood of working. This increase in the likelihood of working could arise from both discouraged workers entering the labor force and unemployed unauthorized immigrants finding employment. This increase in working should in turn increase DACA-eligible unauthorized immigrants' income. This increase in income should be particularly pronounced for those in the bottom of the income distribution due to not being able to previously find steady employment. The results of this paper will test if these reductions in labor market frictions for DACA-eligible unauthorized immigrants allow them to improve their labor market outcomes by being more likely to work, less likely to be unemployed, and by increasing their income.

Note that although DACA itself does not change the labor supply curve and instead attenuates labor-market frictions for DACA-eligible individuals, if these frictions are attenuated and those who obtain DACA increase their likelihood of working, the supply of labor will in turn increase. This increase in the supply of labor could potentially have a negative effect on overall wages. The results indicate DACA moved approximately 50,000–75,000 unauthorized immigrants into employment. This change in the supply of labor accounts for only 0.94–1.41% of the 5.33 million individuals who gained employment in 2013 and 2014 (Bureau of Labor Statistics). This finding implies that the effect of DACA on overall wages would likely be very small and would be unable to be detected in these data. However, with the much larger population that would be affected by DAPA or a large-scale amnesty program, the increase in the supply of labor may be a larger concern.

These attenuations of labor market frictions and the subsequent increase in the supply of labor have potential welfare implications. By reducing labor market frictions for unauthorized immigrants and therefore increasing their employment options, DACA clearly increases the welfare of DACA-eligible individuals. However, the increase in labor supply and the potential decrease in overall wages, may lead to a decrease in the welfare of citizens and authorized immigrants. However, the welfare increases and decreases are not likely to be symmetric. Because DACA relieves large frictions for DACA-eligible unauthorized immigrants, the resulting increase in employment is likely for individuals who are not at the margin of being willing to work, but rather are well within the margin of being willing to work. Conversely, if the increased supply of labor from DACA-eligible individuals displaces workers, these displaced workers are likely to be just at the margin of being willing to work. This would imply that the overall welfare effect is not a pure transfer to DACA-eligible individuals, but would likely enhance efficiency, although it would not be Pareto efficient.

In addition to labor market outcomes, I look at why obtaining DACA may potentially affect individuals' schooling outcomes. First, I look at the potential effect of DACA on attending school, and then the potential effect on obtaining a GED. The additional options from obtaining DACA may have a direct positive effect on the likelihood of attending schooling through legal documentation that gives immigrants access to loans to pay for tuition, the ability to obtain a driver's license so they can attend school while still living with their parents, or the ability to work while attending school to cover their tuition and living expenses. In addition, by obtaining assurance through DACA of being able to legally work in the future, DACA-eligible individuals may be more willing to invest in their human capital. However, besides these potential positive effects of DACA, work authorization has an indirect negative effect on school attendance. Working and attending school (particularly attending full time) are likely substitutes for each other. Once DACA-eligible individuals obtain DACA and can more easily find employment, they may substitute their time away from attending school and toward working. Second, because one of the requirements for obtaining DACA is to have a high school diploma or a GED certificate, DACA may directly incentivize unauthorized immigrants who do not have a high school

diploma or GED, but are otherwise eligible for DACA, to obtain a GED so they can reap the potential benefits of DACA. The results look at whether DACA affects both the likelihood of attending school and of obtaining a GED.

5. Empirical method

To measure the effect of DACA, I use a difference-in-differences (DID) approach. By comparing DACA-eligible individuals with DACA-ineligible individuals before and after the implementation of DACA, I can measure its effect. The simplest approach to test if DACA has an effect on DACA-eligible individuals is by comparing the outcome means of individuals eligible for DACA with those ineligible both before and after DACA became available. Figs. 2 through 5 show these simple mean comparisons between non-citizens ages 18–35 with at least a high school degree from 2005 to 2014. With DACA only being available at the end of 2012, I should only observe its effect for the years 2013 and 2014, with possibly a small effect in 2012. I discuss the results shown in these figures in detail in the Results section.

As mentioned earlier, one of the limitations with the ACS data is the inability to distinguish between unauthorized and authorized non-citizens. According to the Census Bureau (Acosta et al., 2014), the ACS estimates that there were 8.3 million non-citizens in the US between the ages of 18 and 35 in 2012. The Department of Homeland Security (Baker and Rytina, 2013) estimates that of these 8.3 million non-citizens, 38.9% were authorized immigrants and 61.1% were unauthorized immigrants. If the sample were restricted to just unauthorized immigrants, the DID estimates would be the intent-to-treat effect. However, due to this contamination of authorized immigrants

in the non-citizen sample, the DID estimates are not be the intent-to-treat effect. Instead, the DID estimates will be systematically biased toward zero and will underestimate the intent-to-treat effect. With nearly 40% of the non-citizen sample being authorized immigrants, the intent-to-treat effect of DACA will be approximately 1.6 times larger than the estimates from the DID estimation. When the estimation is performed on subsamples of the data that tend to have a higher percentage of unauthorized immigrants, such as low-income and low-education subsamples (Passel and Cohn, 2009), the DID estimates are larger. However, these larger estimates may also be because unauthorized immigrants in these subsamples benefit more from obtaining DACA. Similarly, sampling error that incorrectly specifies the DACA-eligible variable would also bias the estimates toward zero. The DID estimates will provide a lower bound for the intent-to-treat effects of DACA. In addition, because only 67% of DACA-eligible individuals obtained approval, the treatment on the treated effects could potentially be as much as 1.5 times larger than the intent-to-treat effects. However, any treatment on the treated effect derived from the DID estimates could be biased by selection into who applies for DACA.

The main analysis for this paper simultaneously uses a DID approach along with some regression discontinuity design elements. I will use the DID approach on samples with individuals just above and below different DACA qualification criteria. The main model is as follows:

$$Y_{it} = \beta_0 + \beta_1 \text{Eligible}_{it} * \text{After}_{it} + \beta_2 \text{Eligible}_{it} + \beta_3 \text{After}_{it} + \beta_4 X_{it} + \beta_5 W_{it} + \theta_t + \gamma_s + \gamma_s t + \varepsilon_{it} \quad (1)$$

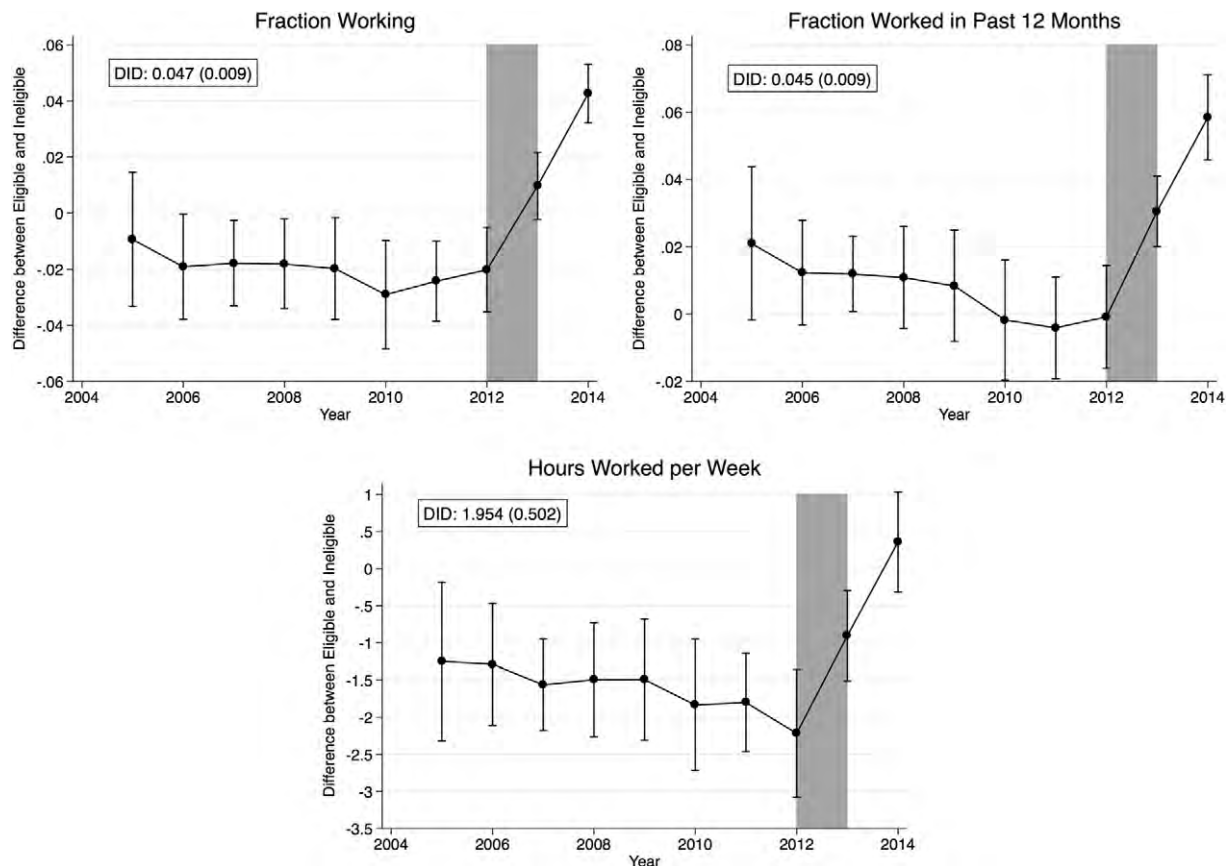


Fig. 2. Difference in working by DACA eligibility. Note: Each figure shows the mean difference of the given variable between DACA-eligible and DACA-ineligible individuals for each year from 2005 to 2014. The sample is the same as Panel C of Table 2 and includes all non-citizens with at least a high school degree and who are between the ages of 18 and 35. DID estimates without controls that account for pre-trends are shown in the box. The shaded area between 2012 and 2013 represents when DACA became available.

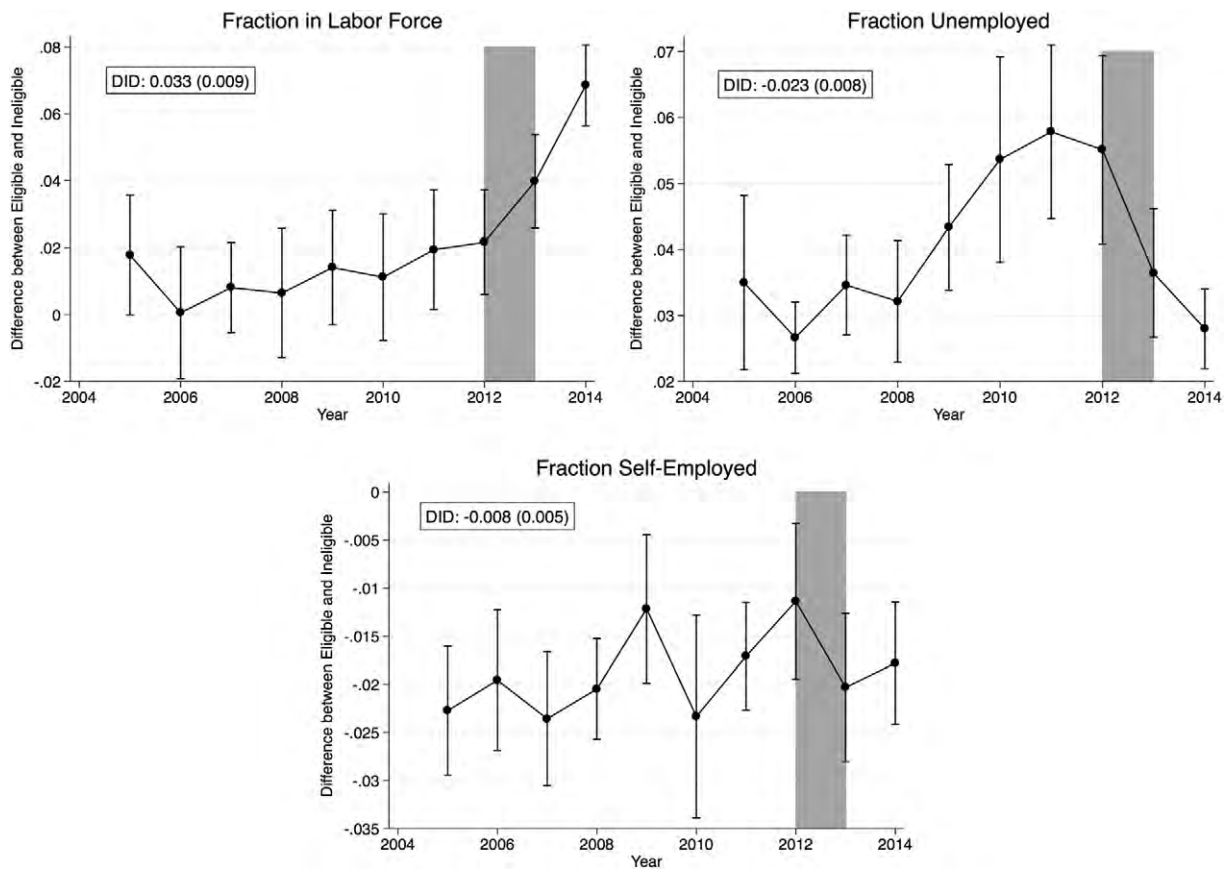


Fig. 3. Difference in employment status by DACA eligibility. Note: Each figure shows the mean difference of the given variable between DACA-eligible and DACA-ineligible individuals for each year from 2005 to 2014. The sample is the same as Panel C of Table 2 and includes all non-citizens with at least a high school degree and who are between the ages of 18 and 35. DID estimates without controls that account for pre-trends are shown in the box. The shaded area between 2012 and 2013 represents when DACA became available.

where Y_{it} is the outcome variable of interest (e.g., working, unemployed, in school, etc.) for individual i in year t . The variable $Eligible_{it}$ is a binary variable equal to one if individual i is eligible for DACA, and zero if ineligible. The creation of this variable was described in the Data section. The variable $After_{it}$ is a binary variable equal to one if it is after DACA became available, and equal to zero if before. Since the ACS only reports the year in which the interview is performed, I use the cutoff between 2012 and 2013 as the threshold for when DACA became available. Therefore, $After_{it}$ is equal to one if the year is 2013 or 2014 and zero if the year is from 2005 to 2012. The parameter of interest, β_1 , is the coefficient on the interaction term between $Eligible_{it}$ and $After_{it}$. The vector X_{it} contains demographic controls including years of education, sex, race, ethnicity, marital status, and state-level unemployment rates. The vector W_{it} non-parametrically controls for the eligibility criteria by including fixed effects for individual i 's age and age when arrived in the United States. The vectors θ_t and γ_s allow for time and state fixed effects, respectively. Lastly, $\gamma_s t$ allows for state-specific time trends. When estimating Eq. (1), standard errors are clustered at the state-year level.

I estimate this DID model on four different samples. The first sample includes all non-citizens ages 18–30 with at least a high school degree who entered the United States between the ages of 12 and 19. The cutoff for DACA eligibility was entering the United States before the age of 16. This sample allows a DID estimate to be obtained for individuals near the DACA age cutoff for entering the United States (four years above and below the cutoff) and therefore uses the variation in eligibility due to when an individual entered the United States. The second sample includes all non-citizens ages 27–34 with

at least a high school degree who entered the United States before the age of 16. Because the cutoff for DACA eligibility was being under the age of 31, this sample captures the variation in eligibility due to the age criterion. Third, the DID model is estimated without any regression discontinuity element. This last sample includes all non-citizens ages 18–35 with at least a high school degree and therefore uses all sources of variation in DACA eligibility. This sample is more akin to a typical DID estimation that relies heavily on the pre-trends of the two groups being similar, although the two groups may not be similar. The last sample the DID model is estimated on includes all citizens and non-citizens ages 18–35 with at least a high school degree.

The parameter of interest in all specifications is the coefficient on the interaction term between $Eligible_{it}$ and $After_{it}$. This coefficient estimates the change in the outcome variable for individuals eligible for DACA after DACA became available compared to those ineligible for DACA. The main assumption that must hold in order for the estimates to be unbiased is that the DACA-eligible and -ineligible groups have parallel trends, and the parallel trends would have continued in the absence of DACA. To support the assumption of parallel trends, I test for pre-existing trends. In addition to the test for pre-existing trends, the trends can be seen in Figs. 2 through 5. Lastly, using the two samples of individuals just above and below the DACA criteria cutoffs, near the age of 30 and near the age of 16 when entering the United States, increases the likelihood that the eligible and ineligible groups are similar and have parallel trends.

One potential concern for the interpretation of the DID estimates is that some unauthorized immigrants may not have the required

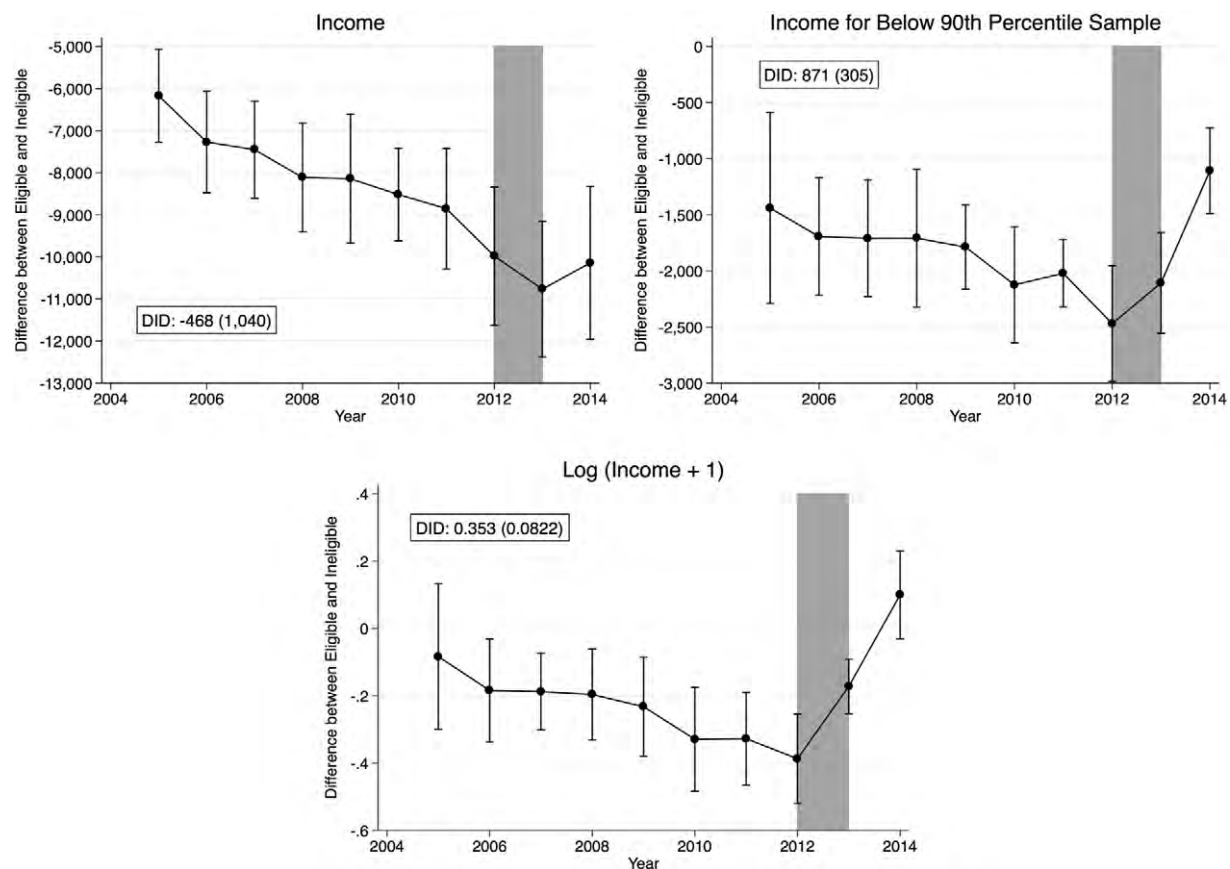


Fig. 4. Difference in income by DACA eligibility. Note: Each figure shows the mean difference of the given variable between DACA-eligible and DACA-ineligible individuals for each year from 2005 to 2014. The sample is the same as Panel C of Table 2 and includes all non-citizens with at least a high school degree and who are between the ages of 18 and 35. The first figure includes all individuals in the sample. The second figure restricts the sample to individuals with income below the 90th percentile. The third figure uses the log of income plus one as the outcome variable instead of linear income. DID estimates without controls that account for pre-trends are shown in the box. The shaded area between 2012 and 2013 represents when DACA became available.

money or may worry that obtaining DACA will increase the future likelihood of being deported, and therefore unauthorized immigrants who obtain DACA may be a specifically selected type of unauthorized immigrant. Because a large portion (67%) of DACA-eligible individuals applied and obtained DACA, this concern is somewhat limited; however, the two thirds who obtain DACA may still be substantially different from the one third who did not. This concern will not affect

the main policy implications of the results, because this concern does not affect the DID estimates. The DID estimates will still estimate the effect of how DACA affected DACA-eligible unauthorized immigrants regardless of whether they obtained DACA, and still be a lower bound on the intent-to-treat effect. However, this concern could potentially bias any treatment on the treated effects derived from these DID estimates. If a program with permanent deportation relief and

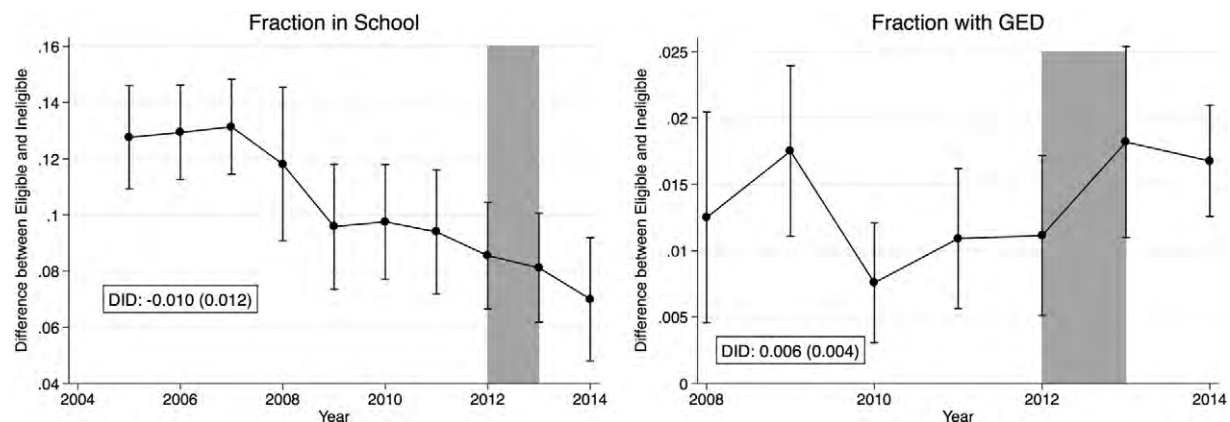


Fig. 5. Difference in education outcomes by DACA eligibility. Note: Each figure shows the mean difference of the given variable between DACA-eligible and DACA-ineligible individuals for each year from 2005 to 2014. The sample is the same as Panel C of Table 2 and includes all non-citizens with at least a high school degree and who are between the ages of 18 and 35. DID estimates without controls that account for pre-trends are shown in the box. The shaded area between 2012 and 2013 represents when DACA became available.

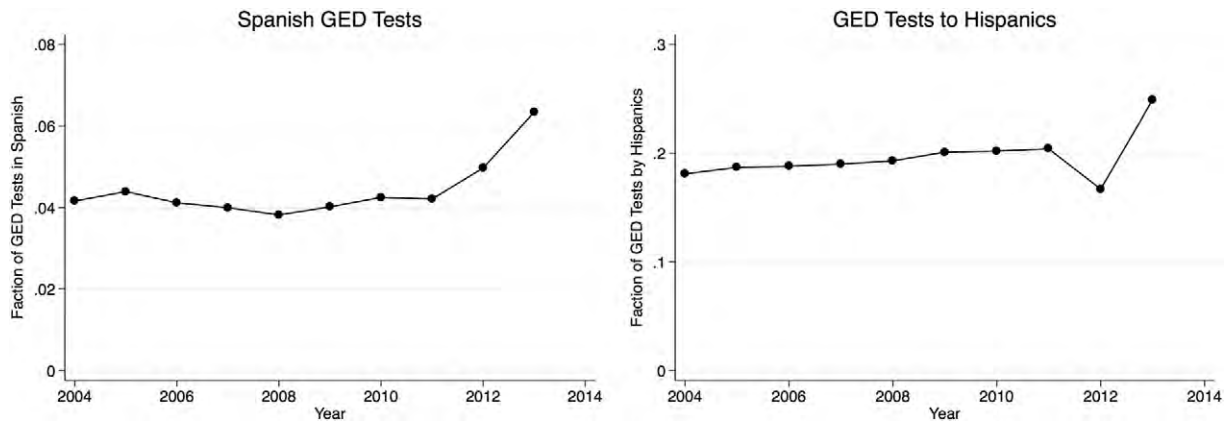


Fig. 6. Fraction of GED tests administered in Spanish and to Hispanics. Note: The first graph shows the fraction of GED tests administered in Spanish for each year. The second graph shows the fraction of GED tests administered to Hispanics for each year.

work authorization were implemented such that immigrants were not concerned about future deportation and a higher percentage of eligible unauthorized immigrants who applied for and obtained deportation relief, then the treatment on the treated effects from such a program may be larger or smaller.

6. Results

6.1. Graphical results

In this section, I compare the outcome means of individuals eligible for DACA with those ineligible both before and after DACA became available. Each point in Figs. 2 through 5 shows the difference in the mean for individuals eligible for DACA and those ineligible. The simple DID estimates without controls that account for differential pre-trends are reported in each graph. The sample includes all non-citizens ages 18–35 with at least a high school degree (for alternative samples, see Figs. A.1–A.12). Because DACA became available at the end of 2012, its effects should be observed in the years 2013 and 2014. The effects are likely to be larger in 2014 than 2013 because a large portion of individuals would not have received approval before being surveyed in 2013.

The first graph in Fig. 2 shows the difference in means for the fraction of individuals working. This graph shows similar pre-trends from 2005 to 2012, with the difference in means remaining relatively stable. However, once DACA became available, this difference increased by 6.3 percentage points from 2012 to 2014. The results for the fraction who worked in the past 12 months and the usual number of hours worked per week are similar and show substantial increases in employment for those eligible for DACA compared to those ineligible once DACA became available.

This effect of DACA on employment can come from either changes in labor force participation or unemployment. The results for the fraction in the labor force in Fig. 3 are similar to the results from the fraction working with staple pre-trends followed by increases in labor force participation in 2013 and 2014. The pre-trends in being unemployed are less similar, but there are still significant drops in the difference in unemployment in 2013 and 2014, respectively. The fraction of individuals self-employed shows little evidence that DACA had an impact on the likelihood of being self-employed.

The first graph in Fig. 4 shows the difference in income between DACA-eligible and -ineligible individuals. A strong differential pre-trend in income appears for the two groups prior to the availability of DACA. The difference in the mean income declines from 2005 to

2013, followed by a small uptick in 2014 that is not statistically significant. Part of this slow response for income may occur because the ACS measures income by asking individuals their income over the past 12 months. Because DACA recipients in 2013 could only have had their DACA approval for at most a year (and likely much less) and because many DACA recipients in 2013 would have been interviewed before obtaining DACA approval, this income measure may underestimate the effect of DACA on income. However, the strong differential pre-trends appear to be driven by the top 10% of the income distribution. The second graph restricts the sample to the bottom 90% of the income distribution, and the pre-trends for the two groups are much more stable. For the bottom 90% in the income distribution, there is a 1,364 dollar increase in income for DACA-eligible individuals compared to those ineligible between 2012 and 2014. Also, although an imperfect measure, the third graph shows the difference in the log of income plus one and finds large increases in log income once DACA became available.

In Fig. 5, the pre-trends for the fraction in school are different for the two groups. There is also no clear change in the mean difference when DACA becomes available. The fraction with a GED shows the mean difference in the fraction of individuals with a GED. The ACS first started asking this question in 2008, so the graph only covers the years 2008–2014. There is no clear change in the mean difference in GED attainment once DACA became available.

To better look at the effect of DACA on GED attainment, I also use annual data from the GED Testing Service⁹ on the fraction of GED tests that were taken in Spanish and by Hispanics each year (Fig. 6). Data for the GED end in 2013 because the 2002 Series GED Test expired at the end of 2013. From 2004 to 2011, the fraction of GED tests administered in Spanish ranged from 3.8% to 4.4%. However, from 2011 to 2013, the fraction of GED tests administered in Spanish increased 2.1 percentage points. This increase implies that over 13,000 more individuals took the GED test in Spanish in 2013 than in 2011. In Panel B, the fraction of GED tests that were administered to Hispanics from 2004 to 2011 monotonically increases from 18.1 to 20.4%. However, contrary to what would be predicted, there is a substantial drop in 2012 to 16.7%. Then, as predicted, there is a large increase in 2013 to 24.9%. The 4.5-percentage-point increase from 2011 to 2013 is the equivalent to an additional 27,000 Hispanics taking the GED test in 2013 as compared to 2011. However, this result should be interpreted cautiously because of the dip that occurs in 2012 and the null effect in the ACS data.

⁹ <http://www.gedtesting.com/educators/historical-testing-data>

6.2. Difference-in-differences results

Moving from the simple approach to a more sophisticated approach, I estimate Eq. (1). I perform this estimation separately for the four different samples described in the *Empirical method* section. Table 2 reports the estimates from Eq. (1) for each of the four samples. Panel A of Table 2 reports the estimates from the sample that includes all non-citizens ages 18–30 with at least a high school degree who entered the United States between the ages of 12 and 19. This sample performs a DID estimation on individuals near the DACA-criteria cutoff for the age at which individuals entered the United States. The column headers indicate the outcome variables of interest that were described in the *Data* section. The first row reports the coefficient on the interaction term between $Eligible_{it}$ and $After_{it}$. The second row reports the coefficient on $Eligible_{it}$.

Column 1 indicates that non-citizens eligible for DACA are 4.8 percentage points more likely to be working than non-citizens ineligible for DACA after DACA became available. In other words, DACA increases the likelihood of working by 4.8 percentage points for non-citizens who meet the DACA requirements. With a base of 65% of DACA-eligible individuals working, the estimate implies DACA increases the likelihood of a DACA-eligible individual working by 7.3%. Both of these estimates are lower bounds on the intent-to-treat effect. Because approximately 40% of the non-citizen sample are authorized immigrants, the intent-to-treat effects are likely 1.6 times larger than DID estimates. Therefore the intent-to-treat effect of DACA on the likelihood of working could be as large as 7.7 percentage points, or 11.7%.

The increase in the likelihood of working can come from two different sources. The first source is individuals entering the labor force. The second is individuals moving from unemployment to employment. Columns 2 and 3 look at these two different sources separately. Column 2 shows DACA increases the likelihood of a DACA-eligible individual being in the labor force by 3.7 percentage points. Column 3 shows that for DACA-eligible individuals, DACA decreases the likelihood of being unemployed by 1.9 percentage points. From these estimates, DACA appears to move eligible individuals into the labor force and move them from unemployment to employment.

Column 4 shows that although DACA increases the likelihood of working, there is little evidence that it had an effect on DACA-eligible individuals' income for the sample as a whole. However, as was seen in Fig. 4, DACA appears to have an effect on income for individuals in the bottom of the income distribution or when less weight is placed on the upper tail of the income distribution. As such, I estimate the DID estimates using quantile regressions over the income distribution. Fig. 7 shows the results of this quantile regression for both income and the log of income plus one. Because just over 25% of individuals have zero income, estimates are not available for the lower quarter of the income distribution. As can be seen, DACA appears to have increased the income of those between the 30th and 60th percentile by 400–800 dollars or about 5–20%. DACA appears to have had little effect on those in the top of income distribution.

Columns 5 and 6 use two different measures for working. Column 5 indicates DACA-eligible individuals work 1.7 hours more per week than DACA-ineligible individuals after DACA became available. This increase can also be thought of as one additional full-time job per 23 DACA-eligible individuals. Column 6 indicates that DACA-eligible individuals are 3.9 percentage points more likely to have worked in the past 12 months. Column 7 tests whether DACA approval moves individuals from self-employment to the formal labor market. I find no statistically significant affect of DACA on self-employment.

Columns 8 and 9 look at academic attainment. Column 8 finds DACA decreases the likelihood of attending school for DACA-eligible individuals by 2.1 percentage points. This effect is statistically significant; however, the effect is likely biased due to the differential pre-trends in schooling between the DACA-eligible and -ineligible

groups that can be seen in Fig. 2. Once I test for pre-trends in Table 3, the effect on schooling is indistinguishable from zero. Column 9 looks at the effect of DACA on the likelihood of having attained a GED certificate. DACA does not appear to have an effect on the number of individuals that have attained their GED.

Panels B, C, and D of Table 2 show analogous results for three additional samples. Panel B shows the results for non-citizens with at least a high school degree who are ages 27–34 and entered the United States before the age of 16. This sample includes individuals who are just above and below the age cutoff for DACA eligibility (must be under 31) but meet all other DACA eligibility requirements. The results for the individuals near the age cutoff are quite similar to the results found in Panel A. The notable difference in Panel B is that there is no statistically significant effect on schooling. Panel C includes all non-citizens with at least a high school degree who are ages 18–35. Instead of using variation in DACA eligibility that comes from being just above or below a DACA criteria cutoff along with the DID methodology as does Panels A and B, this sample only uses the DID methodology. Panel D includes all citizens and non-citizens with at least a high school degree. The results from this sample are qualitatively the same; however, the estimates tend to be smaller. These smaller estimates are likely due to the stronger differential pre-trends for this sample. Once these differential pre-trends are accounted for, the estimates for this sample are similar in magnitude to those of the first three samples (see Table A.6).

6.3. Potential concerns

A major concern about the empirical method used is the possibility of differential trends in the outcome variables for DACA-eligible and -ineligible individuals. Fig. 2 looks at this assumption graphically, but further analysis is performed in Table 3. Table 3 estimates Eq. (1) with the variable $Eligible_{it}$ interacted with a binary variable for each year. The interaction with the 2012 binary variable is the omitted interaction. If differential trends are a problem, the coefficients on the interaction terms leading up to 2013 and 2014 should be statistically significant and in the same direction as the coefficients on the 2013 and 2014 interaction terms. When testing for pre-trends, statistically significant effects remain for working, labor force, unemployment, hours worked per week, and worked in the past year. These point estimates vary in magnitude compared to the estimates in Table 2 but tend to be qualitatively similar. School attendance is no longer affected, likely due to the clear pre-trends for school attendance. However, there does not appear to be clear pre-trends for the other outcomes. Analogous to Table 3, Tables A.4, A.5, and A.6 show the pre-trends results for the samples in Panels B, C, and D of Table 2, respectively. Because 2012 was an election year in which immigration policy was a major topic of conversation, unauthorized immigrants may have been concerned about possible future immigration policies and therefore underinvested in work and education in 2012. If this were true, then the effects could be biased when they are compared to the omitted 2012 interaction. Tables A.18–A.21 show the pre-trends when the 2011 interaction is the omitted interaction. The effects are very similar regardless of which year is used as the omitted interaction.

Another potential concern for the identification strategy is the possibility that individuals change how they respond to the ACS after they receive DACA. Unauthorized immigrants may be more willing to answer (or truthfully answer) the citizenship question once they have obtained DACA. Also, because working without proper documentation is illegal, undocumented workers may be hesitant to respond to questions about employment. Once they receive legal status and work authorization through DACA, they may change their survey-response behavior and be more likely to respond to citizenship and employment questions. Thus, instead of DACA actually increasing recipients' likelihood of working, it may just increase

Table 2

The effect of DACA on labor market and education outcomes.

Variables	Working	Labor force	Unemployed	Income	Hours per week	Worked in past year	Self- employed	School	GED
<i>Panel A: entered US between ages 12 and 19</i>									
Eligible*After	0.048*** [0.010]	0.037*** [0.011]	−0.019*** [0.007]	−1 [466]	1.715*** [0.420]	0.039*** [0.011]	−0.005 [0.005]	−0.021** [0.009]	0.001 [0.004]
Eligible	−0.027** [0.011]	−0.042*** [0.012]	−0.014 [0.011]	−447 [279]	−0.378 [0.374]	−0.033*** [0.011]	0.001 [0.006]	−0.046*** [0.010]	0.007* [0.004]
Observations	102,765	102,765	68,831	102,765	102,765	102,765	79,454	102,765	72,117
R-squared	0.145	0.150	0.032	0.199	0.224	0.137	0.017	0.413	0.042
<i>Panel B: ages 27 to 34 in June 2012 and entered US before age 16</i>									
Eligible*After	0.044*** [0.013]	0.028** [0.012]	−0.022*** [0.008]	1,397 [904]	1.184** [0.486]	0.027** [0.011]	0.017* [0.010]	0.002 [0.010]	0.009 [0.010]
Eligible	0.008 [0.018]	0.007 [0.016]	−0.003 [0.011]	214 [1,047]	0.366 [0.620]	0.014 [0.015]	−0.007 [0.012]	−0.015 [0.010]	0.010 [0.011]
Observations	33,236	33,236	26,796	33,236	33,236	33,236	29,819	33,236	23,939
R-squared	0.059	0.067	0.027	0.143	0.110	0.073	0.018	0.079	0.078
<i>Panel C: all non-citizens ages 18 to 35 with at least a high school degree</i>									
Eligible*After	0.037*** [0.006]	0.033*** [0.005]	−0.010** [0.004]	−1,045 [672]	0.931*** [0.317]	0.030*** [0.006]	−0.002 [0.003]	−0.005 [0.006]	0.003 [0.002]
Eligible	0.069*** [0.006]	0.065*** [0.005]	−0.013*** [0.004]	5,801*** [437]	2.414*** [0.228]	0.060*** [0.005]	0.006* [0.004]	−0.028*** [0.005]	−0.004 [0.003]
Observations	438,710	438,710	308,368	438,710	438,710	438,710	355,205	438,710	306,442
R-squared	0.130	0.131	0.032	0.220	0.187	0.127	0.022	0.297	0.052
<i>Panel D: all citizens and non-citizens ages 18 to 35 with at least a high school degree</i>									
Eligible*After	0.021*** [0.005]	0.017*** [0.004]	−0.009*** [0.004]	−529 [490]	0.600** [0.256]	0.025*** [0.006]	0.002 [0.003]	0.017*** [0.005]	0.007*** [0.002]
Eligible	−0.006** [0.003]	−0.012*** [0.003]	−0.006*** [0.002]	163 [159]	−0.344*** [0.110]	−0.030*** [0.003]	0.013*** [0.002]	−0.023*** [0.002]	−0.022*** [0.001]
Observations	5,636,126	5,636,126	4,411,763	5,636,126	5,636,126	5,636,126	5,111,496	5,636,126	4,048,401
R-squared	0.084	0.069	0.045	0.248	0.161	0.059	0.015	0.322	0.116

Note: Table 2 reports the estimates from Eq. (1) for four separate samples. All four samples are restricted to individuals with at least a high school degree. Panel A uses the sample of non-citizens who entered the United States between the ages of 12 and 19. Panel B uses the sample of non-citizens between the ages of 27 and 34 who arrived in the United States before the age of 16. Panel C uses the sample of non-citizens between the ages of 18 and 35. Panel D uses the sample of citizens and non-citizens between the ages of 18 and 35. Each column indicates the outcome variable of interest. The first row of each panel reports the estimated coefficient on the interaction term. The second row reports the estimated coefficient on the DACA-eligibility variable. Standard errors are clustered at the state-year level. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

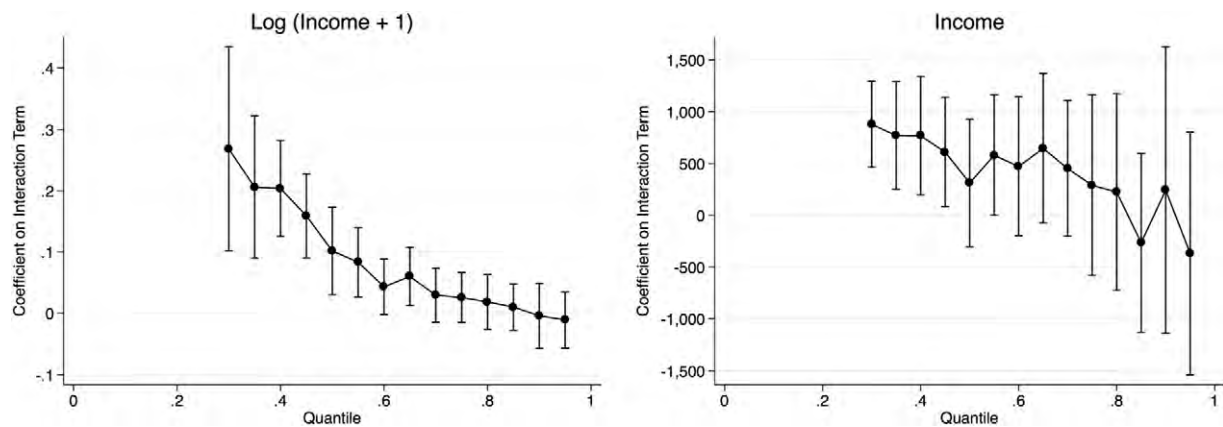


Fig. 7. Effect of DACA on income by income quantile. Note: Each point represents the coefficient on the interaction term between DACA eligibility and the binary variable for after DACA became available when a quantile regression is estimated using the specification from Eq. (1). No estimates are available prior to the 0.30 quantile because 25 to 30% of individuals in the sample have an income of zero. The sample is the same as Panel A of Table 2. The outcome variable for the first graph is $\log(\text{Income} + 1)$. The outcome variable for the second graph is income.

recipients' likelihood of reporting on the ACS survey that they worked. Using the quality flags in the ACS, I am able to test if the availability of DACA changes the likelihood of DACA-eligible individuals responding to particular questions. To do so, I use the DID estimation shown in Eq. (1) with the outcome variable, Y_{it} , as an indicator variable equal to one if the survey question for the outcome variable of interest was not answered and the outcome variable of interest was imputed by the ACS. The indicator variable is equal to zero otherwise. Table 4 reports the coefficients on the interaction term and on the DACA-eligible variable for the estimation performed. If the availability of DACA increases the likelihood of DACA-eligible immigrants responding to an ACS survey question, the coefficient on the interaction term should be negative and statistically significant. As Table 4 shows, for all of the outcome survey question, the coefficient on the interaction term is close to zero and none are statistically significant. This finding would indicate that DACA-eligible immigrants did not change their survey response behavior very much after DACA became available and is likely not driving the positive

effects on employment. Analogous to Table 4, Tables A.8, A.9, and A.10 show the results for the samples in Panels B, C, and D of Table 2, respectively.

One potential concern is that although all unauthorized immigrants are equally likely to be sampled, unauthorized immigrants that complete the ACS may be different from those who do not complete the ACS, and DACA affects the type of unauthorized immigrants who complete the ACS differently than those who do not complete the ACS. Although the ACS does not ask about an individual's legal status, some unauthorized immigrants might be more wary of completing a government survey. Alternatively, because completing the ACS is required by law, some unauthorized immigrants may be more inclined to fill out the ACS. If the group that is more inclined to answer the survey is also affected differently by DACA, the generalizability of the results may be affected. This concern will not affect the internal validity of the results, but may limit how much the results can be generalized to the DACA-eligible population as a whole. This is a possible concern because from 2005 to 2014, 65.5–68.7% of the

Table 3
Pre-trends.

Variables	Working	Labor force	Unemployed	Income	Hours per week	Worked in past year	Self-employed	School	GED
Eligible*2014	0.056*** [0.018]	0.041** [0.017]	-0.021* [0.011]	281 [902]	2.378*** [0.715]	0.041** [0.019]	0.005 [0.009]	0.005 [0.013]	0.006 [0.007]
Eligible*2013	0.033** [0.016]	0.002 [0.018]	-0.040*** [0.012]	-318 [838]	0.964 [0.757]	0.020 [0.017]	-0.008 [0.009]	0.012 [0.015]	0.003 [0.006]
Eligible*2011	-0.011 [0.015]	-0.008 [0.015]	0.008 [0.012]	-439 [757]	-0.655 [0.626]	-0.022 [0.014]	0.000 [0.008]	0.026** [0.012]	0.001 [0.006]
Eligible*2010	0.002 [0.015]	-0.011 [0.017]	-0.014 [0.015]	-49 [711]	0.333 [0.650]	0.003 [0.014]	0.004 [0.008]	0.029 [0.018]	0.001 [0.006]
Eligible*2009	0.011 [0.017]	0.005 [0.016]	-0.006 [0.012]	478 [833]	0.949 [0.675]	0.006 [0.017]	0.012 [0.009]	0.024* [0.013]	0.010 [0.006]
Eligible*2008	0.014 [0.013]	-0.014 [0.013]	-0.030*** [0.011]	392 [793]	0.588 [0.633]	0.002 [0.014]	0.000 [0.008]	0.020 [0.014]	0.006 [0.007]
Eligible*2007	-0.002 [0.014]	-0.015 [0.014]	-0.010 [0.012]	-101 [730]	-0.713 [0.601]	-0.015 [0.014]	-0.005 [0.009]	0.040*** [0.014]	- [0.014]
Eligible*2006	-0.027 [0.016]	-0.054*** [0.016]	-0.022** [0.010]	-981 [805]	-0.744 [0.671]	-0.032* [0.016]	0.005 [0.008]	0.051*** [0.012]	- [0.012]
Eligible*2005	-0.015 [0.018]	-0.035** [0.016]	-0.016 [0.013]	675 [730]	-0.077 [0.688]	-0.006 [0.018]	0.011 [0.009]	0.043** [0.019]	- [0.019]
Observations	102,765	102,765	68,831	102,765	102,765	102,765	79,454	102,765	72,117
R-squared	0.145	0.151	0.033	0.200	0.224	0.138	0.017	0.414	0.042

Note: Table 3 reports the estimates from Eq. (1) with *Eligible* interacted with each year. The 2012 interaction is the omitted interaction. The estimation uses the sample from Panel A of Table 2. Each column indicates the outcome variable of interest. Each row reports the estimated coefficient on the given interaction term. Standard errors are clustered at the state-year level. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 4

The effect of DACA on survey-item response rates.

Variables	Citizen	Working	Labor force	Unemployed	Income	Hours per week	Worked in past year	Self-employed	School	GED
Eligible*After	−0.002 [0.005]	−0.002 [0.006]	0.004 [0.006]	−0.007 [0.006]	0.005 [0.009]	0.007 [0.006]	−0.002 [0.005]	0.004 [0.005]	0.001 [0.005]	0.002 [0.008]
Eligible	0.014** [0.005]	0.010* [0.005]	0.007 [0.007]	0.023*** [0.006]	0.006 [0.007]	0.005 [0.006]	0.010* [0.006]	0.009 [0.006]	0.002 [0.004]	0.002 [0.009]
Observations	102,765	102,765	102,765	68,831	102,765	102,765	102,765	102,765	102,765	72,117
R-squared	0.014	0.018	0.012	0.017	0.613	0.013	0.016	0.010	0.013	0.039

Note: Table 4 reports the estimates from Eq. (1) with the outcome variable, Y_{it} , being an indicator variable equal to one if the survey question for the outcome variable of interest was not answered and the outcome variable of interest was imputed by the ACS. The indicator variable is equal to zero otherwise. The estimation uses the sample from Panel A of Table 2. Each column indicates the outcome variable of interest. The first row of each panel reports the estimated coefficient on the interaction term and the second row reports the estimated coefficient on the DACA-eligibility variable. Standard errors are clustered at the state-year level. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

addresses that were sent the ACS survey completed it. However, for the one third of the nonrespondents that were randomly assigned to be contacted in person, 96.7–98.0% completed the survey. Because nearly all households complete the ACS survey if selected to be contacted in person, little to no selectivity of individuals into this subsample will take place based on their willingness to fill out the ACS survey. I estimate the main results using this subsample and report the results in Table A.7. The results from this subsample, in which selection on the willingness to complete the ACS is minimal to nonexistent, are very similar to the main results. This finding implies that either no selection occurs in the willingness of unauthorized immigrants to complete the ACS, or DACA does not differentially affect this type of unauthorized immigrants. Either way, this finding suggests that the results from the ACS are likely generalizable to the population of DACA-eligible unauthorized immigrants as a whole.

An additional potential concern for the identification strategy is the possibility that individuals' likelihood of completing the ACS changes after they receive DACA. If unauthorized immigrants' willingness to complete the ACS changes once they received DACA, the composition of individuals in the DACA-eligible group might change and bias the results. Similar to the previous concern, the results from Table A.7 show that when the sample is restricted to a subsample for which the survey-completion rate is over 95% and therefore there is little room for a compositional change to those included in the DACA-eligible group, the estimates for the effect of DACA are very similar. This finding implies that little change occurs in the composition of the DACA-eligible group and little to no bias to the results. In addition, I test whether the observable characteristics for the DACA-eligible group change once DACA became available in 2013. Due to strong pre-trends in observable characteristics, I use the same specification as the pre-trend tables without controls to test whether 15 different observable characteristics changed between 2012 and 2013. Table A.11 reports the coefficient on the interaction term between 2013 and being DACA eligible, with the 2012 interaction omitted. Of the 60 different coefficients estimated for the 15 observable characteristics and the 4 different samples, only 7 of the 60 coefficients are significant at the 90% confidence level. This test indicates that there is little evidence of a change in the observable characteristics of the DACA-eligible group after DACA became available. This test implies that receiving DACA did not change individuals' willingness to complete the ACS or the composition of the DACA-eligible group. Therefore, this concern would likely have little to no effect on the results.

Lastly, a potential concern is that DACA recipients are switching from informal to formal jobs and the estimates are measuring this switching and not actual labor market effects. One benefit of the ACS data is that the main question used to determine whether someone is

working includes work that was formal or informal. The wording of the question is as follows: "LAST WEEK, did this person do ANY work for pay." This wording allows both formal and informal work to be included, and therefore the effects of DACA can be seen on all types of work. The questions about whether an individual worked last year and the hours worked per week also ask about all work, whether formal or informal. In addition, the ACS also determines whether a person is self-employed. This question allows me to look at the effect of DACA on any potential movement from self-employment (more likely an informal job) to working for someone else (more likely a formal job). The results show little evidence of an effect on changes in self-employment. The ACS also asks for the occupation of individuals who have worked in the past five years. Using this variable, I estimate the main results for more formal occupations (e.g., teacher, software developer, retail clerk, etc.) and more informal occupations (e.g., cook, waitress, landscaper, child care worker, etc.). Due to the omission of individuals who may start working for the first time in five years because of obtaining work authorization through DACA, the estimates from this heterogeneity test will likely be biased. However, if the estimates for individuals with a formal occupation are similar to those with an informal occupation, individuals just switching from informal to formal jobs are unlikely to be driving the main estimates. Tables A.22–A.25 report this heterogeneity test for each of the samples. The results show little evidence of a difference between the estimates for formal and informal occupations. The results of this test imply that the main results are likely not being driven by individuals just switching from informal to formal jobs.

6.4. Subsample and robustness results

Tables 5–8 use the sample and specification from Panel A of Table 2 to look at how the results differ for different subsamples of income, ethnicity, gender, and education. These results look to see if particular subsamples are more or less affected by DACA, and look at how sensitive the results are to the exclusion of particular groups of individuals. Tables A.12, A.13, and A.14 show the subsample results for the samples in Panels B, C, and D of Table 2, respectively.

Table 5 shows the results for individuals below the median income, above the median income, and below the 90th percentile of the sample. Two notable differences exist between the subsamples. First, for individuals below the median and below the 90th percentile, the beneficial effects of DACA are larger. The main effects on working, labor force participation, and unemployment are about twice as large as those for the above-the-median-income subsample. Second, for individuals below the median income, DACA increased the income of DACA-eligible individuals by a statistically significant 339 dollars.

Table 5
The effect of DACA by income level.

Variables	Working	Labor force	Unemployed	Income	Hours per week	Worked in past year	Self-employed	School	GED
<i>Panel A: below median income</i>									
Eligible*After	0.063*** [0.015]	0.050*** [0.017]	−0.049** [0.020]	339*** [111]	1.891*** [0.471]	0.049*** [0.017]	−0.022** [0.009]	−0.036*** [0.013]	0.000 [0.005]
Eligible	−0.024* [0.013]	−0.031** [0.014]	0.001 [0.019]	−275*** [76]	−0.190 [0.403]	−0.036*** [0.014]	0.006 [0.009]	−0.067*** [0.012]	0.010** [0.004]
Observations	54,417	54,417	23,315	54,417	54,417	54,417	31,892	54,417	39,413
R-squared	0.044	0.061	0.035	0.077	0.079	0.058	0.035	0.468	0.047
<i>Panel B: above median income</i>									
Eligible*After	0.024*** [0.009]	0.017** [0.007]	−0.008 [0.005]	−1,086 [850]	1.065** [0.471]	0.020*** [0.007]	0.004 [0.007]	−0.005 [0.010]	0.002 [0.005]
Eligible	−0.055*** [0.016]	−0.076*** [0.013]	−0.018* [0.011]	−784 [654]	−2.006*** [0.581]	−0.054*** [0.012]	−0.005 [0.009]	0.006 [0.016]	0.002 [0.014]
Observations	48,348	48,348	45,516	48,348	48,348	48,348	47,562	48,348	32,704
R-squared	0.041	0.060	0.010	0.160	0.093	0.074	0.018	0.233	0.043
<i>Panel C: below 90th percentile income</i>									
Eligible*After	0.050*** [0.011]	0.038*** [0.011]	−0.021*** [0.007]	343 [260]	1.777*** [0.426]	0.041*** [0.012]	−0.006 [0.005]	−0.025*** [0.010]	−0.001 [0.004]
Eligible	−0.024** [0.011]	−0.039*** [0.012]	−0.015 [0.011]	84 [185]	−0.266 [0.371]	−0.031*** [0.011]	0.001 [0.006]	−0.050*** [0.010]	0.008** [0.004]
Observations	96,111	96,111	62,453	96,111	96,111	96,111	72,898	96,111	67,419
R-squared	0.137	0.145	0.031	0.235	0.214	0.131	0.016	0.428	0.041

Note: Table 5 reports the estimates from Eq. (1) for individuals below the median income level (Panel A), above the median income level (Panel B), and below the 90th percentile in income (Panel C). The estimation uses the sample from Panel A of Table 2. Each column indicates the outcome variable of interest. The first row of each panel reports the estimated coefficient on the interaction term and the second row reports the estimated coefficient on the DACA-eligibility variable. Standard errors are clustered at the state-year level. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 6 shows the results for the subsample of individuals who identify as Hispanic and for the subsample of Mexicans. The results are fairly similar in both magnitude and sign to the main results in Table 2. This similarity is important, because approximately 78% of DACA recipients were Mexican. They indicate a positive effect of DACA on working, labor force, hours worked per week, and worked in the last year for both Hispanics and Mexicans. The results also show a negative effect on unemployment.

Table 7 shows the results separately by gender. I find no statistically significant differences in the coefficients between men and women. The coefficients are both of similar magnitude and sign to the main results in Table 2. Table 8 shows the results separately by education level. The results in Panel A are for individuals with a high school degree or some college, and are similar to the main results

found in Table 2. The results in Panel B are for individuals with a college degree or more, and are similar in sign yet smaller in magnitude. Due to a much smaller sample size and much larger standard errors, these results are at most marginally significant.

In addition to the sensitivity analysis performed by looking at different subsamples, Table 9 looks at the robustness of the results to different choices of specification. Each row represents a different specification or sample and each cell in the row is the coefficient on the interaction term along with its standard error. Panel A of Table 9 estimates Eq. (1) with varying levels of controls. Row 1 contains no controls and only includes an indicator for DACA eligibility, an indicator for if the year is after DACA was available, and the interaction of the two. For most of the estimates, the magnitudes are approximately 50% larger than the baseline results from Table 2. However, for schooling, the magnitude is four times larger. Row

Table 6
The effect of DACA by ethnicity.

Variables	Working	Labor force	Unemployed	Income	Hours per week	Worked in past year	Self-employed	School	GED
<i>Panel A: Hispanic</i>									
Eligible*After	0.044*** [0.012]	0.032*** [0.010]	−0.020** [0.009]	82 [528]	1.939*** [0.455]	0.039*** [0.010]	−0.008 [0.007]	−0.023** [0.009]	−0.002 [0.005]
Eligible	−0.010 [0.017]	−0.015 [0.016]	−0.005 [0.015]	−109 [326]	−0.113 [0.550]	−0.020 [0.015]	0.002 [0.008]	−0.062*** [0.015]	0.006 [0.007]
Observations	52,285	52,285	39,065	52,285	52,285	52,285	43,294	52,285	35,296
R-squared	0.145	0.149	0.030	0.190	0.209	0.158	0.014	0.271	0.033
<i>Panel B: Mexican</i>									
Eligible*After	0.046*** [0.014]	0.040*** [0.012]	−0.012 [0.009]	0 [501]	1.785*** [0.588]	0.041*** [0.012]	−0.016* [0.009]	−0.022* [0.013]	−0.001 [0.007]
Eligible	0.011 [0.021]	0.010 [0.019]	−0.005 [0.018]	−162 [476]	0.676 [0.745]	−0.002 [0.019]	0.001 [0.010]	−0.065*** [0.018]	0.007 [0.010]
Observations	34,072	34,072	25,374	34,072	34,072	34,072	28,174	34,072	22,375
R-squared	0.187	0.198	0.033	0.206	0.250	0.208	0.015	0.215	0.033

Note: Table 6 reports the estimates from Eq. (1) for Hispanics (Panel A) and Mexicans (Panel B). The estimation uses the sample from Panel A of Table 2. Each column indicates the outcome variable of interest. The first row of each panel reports the estimated coefficient on the interaction term and the second row reports the estimated coefficient on the DACA-eligibility variable. Standard errors are clustered at the state-year level. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 7

The effect of DACA by gender.

Variables	Working	Labor force	Unemployed	Income	Hours per week	Worked in past year	Self-employed	School	GED
<i>Panel A: women</i>									
Eligible*After	0.041*** [0.013]	0.037*** [0.013]	−0.013 [0.012]	198 [504]	1.487*** [0.429]	0.038*** [0.012]	−0.003 [0.007]	−0.012 [0.015]	0.000 [0.005]
Eligible	−0.011 [0.016]	−0.034** [0.017]	−0.028 [0.017]	−47 [345]	0.715 [0.470]	−0.014 [0.016]	−0.001 [0.010]	−0.041*** [0.015]	0.008 [0.005]
Observations	48,153	48,153	28,107	48,153	48,153	48,153	34,302	48,153	33,831
R-squared	0.087	0.090	0.031	0.182	0.119	0.085	0.020	0.405	0.045
<i>Panel B: men</i>									
Eligible*After	0.049*** [0.014]	0.034** [0.014]	−0.022*** [0.008]	−299 [737]	1.716*** [0.634]	0.035** [0.015]	−0.006 [0.006]	−0.028*** [0.010]	0.001 [0.005]
Eligible	−0.040*** [0.013]	−0.049*** [0.014]	−0.004 [0.014]	−756* [416]	−1.260*** [0.486]	−0.049*** [0.013]	0.003 [0.007]	−0.052*** [0.013]	0.008 [0.007]
Observations	54,612	54,612	40,724	54,612	54,612	54,612	45,152	54,612	38,286
R-squared	0.207	0.222	0.040	0.194	0.283	0.205	0.019	0.421	0.044

Note: Table 7 reports the estimates from Eq. (1) for women (Panel A) and men (Panel B). The estimation uses the sample from Panel A of Table 2. Each column indicates the outcome variable of interest. The first row of each panel reports the estimated coefficient on the interaction term and the second row reports the estimated coefficient on the DACA-eligibility variable. Standard errors are clustered at the state-year level. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

2 adds demographic controls including education level, sex, race, ethnicity, marital status, state level unemployment rates, and fixed effects for individuals' age and age entered the United States. Once these controls are included, the estimates are extremely similar to the baseline estimates. Row 3 includes year and state fixed effects, and little change occurs in the estimates. Row 4 includes state time trends and are the same as the baseline estimates found in Panel A of Table 2.

Panel B shows the estimates for different sample choices. Row 1 restricts the sample to those individuals who are only two years above or below the age cutoff for entering the United States, instead of the four years used in the baseline estimation. The magnitude of these results are approximately 20% larger than the baseline results. The sample for row 2 includes those who are six years above or below the cutoff, and finds similar to slightly smaller results than the baseline results. Row 3 includes all education levels instead of only a high school degree or more. With this sample, many of the individuals (35%) will have less than a high school degree, causing them to be ineligible for DACA and therefore biasing the estimates toward zero. Rows 4 and 5 are for the subsample of individuals who are married and single. DACA appears to have a larger effect on single than married individuals; however, most of these differences are not statistically significant.

7. Policy implications

The results help inform two main policy questions. First, how did the implementation of DACA affect its target population and what might happen if DACA were rescinded? Second, what do the results imply for potential future immigration policies such as a temporary or permanent amnesty program or Deferred Action for Parents of Americans and Lawful Permanent Residents (DAPA). Answering these two questions looks at the efficacy of current immigration policy and informs the debate on future immigration policy.

The results speak directly to how the implementation of DACA affected its target population – young unauthorized immigrants. The DID results are a lower bound of the intent-to-treat estimates so can be interpreted as a lower bound on the average effect of DACA on the DACA-eligible population. The results indicate that the implementation of DACA has increased the target population's likelihood of working by approximately 4 percentage points. This increase comes from an increase in labor force participation and a decrease in the unemployment rate of the target population. DACA has increased the income of those in the bottom of the income distribution. These effects imply that in its first two years, DACA moved 50,000–75,000 unauthorized immigrants into employment. Also, note that over two-thirds of DACA-eligible individuals had applied for DACA as

Table 8

The effect of DACA by education level.

Variables	Working	Labor force	Unemployed	Income	Hours per week	Worked in past year	Self-employed	School	GED
<i>Panel A: less educated (high school degree or some college)</i>									
Eligible*After	0.050*** [0.011]	0.039*** [0.011]	−0.020*** [0.007]	341 [386]	2.039*** [0.435]	0.045*** [0.012]	−0.005 [0.005]	–	–
Eligible	−0.024** [0.012]	−0.041*** [0.012]	−0.016 [0.011]	−130 [260]	−0.270 [0.378]	−0.031*** [0.011]	0.001 [0.006]	–	–
Observations	89,308	89,308	58,314	89,308	89,308	89,308	67,549	–	–
R-squared	0.151	0.159	0.033	0.178	0.236	0.144	0.017	–	–
<i>Panel B: highly educated (college degree or more)</i>									
Eligible*After	0.032 [0.023]	0.025 [0.021]	−0.010 [0.015]	−3,024* [1,818]	−0.643 [0.972]	−0.003 [0.019]	−0.003 [0.013]	–	–
Eligible	0.013 [0.082]	0.055 [0.076]	0.063 [0.063]	1,052 [2,917]	1.702 [2.604]	0.016 [0.077]	−0.018 [0.040]	–	–
Observations	13,457	13,457	10,517	13,457	13,457	13,457	11,905	–	–
R-squared	0.084	0.079	0.036	0.148	0.117	0.072	0.028	–	–

Note: Table 8 reports the estimates from Eq. (1) for individuals with a high school degree or some college (Panel A) and for college graduates (Panel B). The estimation uses the sample from Panel A of Table 2. Each column indicates the outcome variable of interest. The first row of each panel reports the estimated coefficient on the interaction term and the second row reports the estimated coefficient on the DACA-eligibility variable. Standard errors are clustered at the state-year level. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

Table 9
Robustness checks.

Variables	Working	Labor force	Unemployed	Income	Hours per week	Worked in past year	Self-employed	School	GED
<i>Panel A: different sets of control variables</i>									
No controls	0.083*** [0.012]	0.072*** [0.013]	−0.025*** [0.007]	781 [515]	3.411*** [0.535]	0.068*** [0.013]	−0.002 [0.005]	−0.092*** [0.015]	0.005 [0.004]
Demographic controls	0.050*** [0.010]	0.039*** [0.011]	−0.020*** [0.007]	−43 [472]	1.774*** [0.420]	0.040*** [0.011]	−0.005 [0.005]	−0.021** [0.010]	0.001 [0.004]
Year and state FE	0.049*** [0.010]	0.038*** [0.010]	−0.020*** [0.007]	−28 [469]	1.739*** [0.416]	0.040*** [0.011]	−0.004 [0.005]	−0.021** [0.009]	0.001 [0.004]
State time trends (baseline)	0.048*** [0.010]	0.037*** [0.011]	−0.019*** [0.007]	−1 [466]	1.715*** [0.420]	0.039*** [0.011]	−0.005 [0.005]	−0.021** [0.009]	0.001 [0.004]
<i>Panel B: different samples</i>									
Enter US age: 14 to 17	0.059*** [0.015]	0.041*** [0.015]	−0.031*** [0.010]	843 [629]	2.287*** [0.596]	0.050*** [0.015]	−0.003 [0.007]	−0.014 [0.011]	0.002 [0.005]
Enter US age: 10 to 21	0.041*** [0.009]	0.036*** [0.009]	−0.011** [0.005]	−111 [439]	1.403*** [0.350]	0.035*** [0.008]	−0.005 [0.004]	−0.019** [0.008]	0.004 [0.003]
All education levels	0.039*** [0.009]	0.036*** [0.008]	−0.008 [0.006]	125 [367]	1.415*** [0.350]	0.034*** [0.009]	−0.009 [0.005]	−0.016* [0.009]	0.003 [0.003]
Married	0.034* [0.020]	0.006 [0.019]	−0.036*** [0.012]	862 [1,014]	1.188 [0.765]	0.020 [0.019]	−0.004 [0.012]	−0.008 [0.014]	0.000 [0.008]
Single	0.049*** [0.011]	0.044*** [0.011]	−0.013 [0.008]	−322 [453]	1.771*** [0.440]	0.042*** [0.011]	−0.005 [0.005]	−0.023** [0.011]	0.000 [0.003]

Note: Table 9 reports the estimates from Eq. (1) with varying levels of controls (Panel A) and for different samples (Panel B). The estimation uses the sample from Panel A of Table 2. Each column indicates the outcome variable of interest. Each row reports the estimated coefficient on the interaction term. Standard errors are clustered at the state-year level. *** Significant at the 1% level. ** Significant at the 5% level. * Significant at the 10% level.

of 2014, which implies these applicants anticipated the benefits of DACA approval to be greater than the time costs of applying and the 465 dollar fee. Because DACA was done through prosecutorial discretion, it is more susceptible to being rescinded than a law. The results of this paper predict that the elimination of DACA would have similar effect sizes, but in the opposite direction.

Note that the estimates from the DID analysis are partial equilibrium effects. Therefore, DACA creates potential general equilibrium effects arising from the increase in the supply of workers. The results suggest DACA moved approximately 50,000–75,000 unauthorized immigrants into employment in 2013 and 2014. This increase in the supply of workers only accounts for 0.94–1.41% of the 5.33 million individuals who gained employment in 2013 and 2014 (Bureau of Labor Statistics). This finding suggests that the general equilibrium effects of DACA on wages is likely to be small. However, the general equilibrium effects may be more problematic for a future immigration policy that targets a larger population. Also, as discussed in the conceptual framework section, due to breaking large labor market frictions for unauthorized immigrants and the minimal general equilibrium effect on wages, the overall welfare effect of DACA is likely not just a pure transfer to DACA-eligible individuals, but would likely enhance efficiency, although it would not be Pareto efficient.

The results also help inform future immigration policy. Approximately 11.4 million unauthorized immigrants live in the United States (Baker and Rytina, 2013). However, only 5.4% of unauthorized immigrants have obtained deferred action and work authorization through DACA. From the results above, DACA improved the labor market outcomes for this small portion of unauthorized immigrants. However, the majority of unauthorized immigrants are excluded from DACA and do not receive these benefits. A temporary or permanent amnesty program could expand deferred action and work authorization to a larger population of unauthorized immigrants. However, because such an expansion to a larger population would include a different type of unauthorized population, whether the benefits would be similar to those found for DACA is unclear. The results from Panels A and B of Table 2 come from samples that are

close to the DACA cutoff criteria. Therefore, these estimates would be particularly policy relevant if DACA were expanded by increasing the age requirements. For individuals near these age cutoffs, the benefits are likely to be very similar.

However, if future temporary or permanent amnesty programs are expanded to include older unauthorized immigrants who likely entered the United States at older ages and may have restricted English proficiency, the effects of deferred action and work authorization may be quite different from those found for DACA. In addition, the effects could vary depending on whether the amnesty program was temporary or permanent. The intent-to-treat effects for a temporary program are likely smaller than for a permanent program, due to lower application rates from unauthorized immigrants wary of future deportation. Smaller effects for a temporary program may also come from less human capital investment without the assurance of the ability to work in the future.

The biggest potential difference between DACA and a temporary or permanent amnesty program for a larger unauthorized immigrant population are the potential general equilibrium effects. Because DACA has moved only a small number of individuals into employment, the downward pressure on wages from the increased supply of workers is likely very small. However, a larger temporary or permanent amnesty program could move many more workers into employment and could cause larger decreases in wages, particularly for low-skilled jobs. These potential general equilibrium effects make the welfare consequences unclear. Unauthorized immigrants will clearly be better off, but if the downward pressure on wages is large enough, they could offset these benefits.

Of particular importance is what these results imply for DAPA. DAPA was announced by President Obama on November 20th, 2014, and would expand eligibility for deferred action and work authorization to an additional 3.7 million unauthorized immigrants.¹⁰ This

¹⁰ <http://migrationpolicy.org/news/mpi-many-37-million-unauthorized-immigrants-could-get-relief-deportation-under-anticipated-new>

new policy would expand DACA by eliminating the under-31 age requirement and would require individuals to only have been in the United States since 2010 instead of 2007. Because this paper estimates the effect of DACA on individuals near the cutoffs of these requirements, the effects of DAPA on these unauthorized immigrants should be very similar to the effects of DACA. However, DAPA would also make all parents of a US citizen who have been in the United States for at least five years eligible for deferred action and work authorization. The effects of DAPA on this population are much less clear. This population of parents would be older, already have children, and may already be well established in a job. Therefore, the labor market effects of DAPA on this population may be smaller than the effects of DACA. If the effects of DAPA were the same as DACA, DAPA would move approximately 250,000 unauthorized immigrants into employment.

8. Conclusion

Because the United States has the most unauthorized immigrants of any country in the world, immigration policies affect millions of people. Deferred Action for Childhood Arrivals (DACA), one of the largest immigration policies in the last 25 years, has reduced the labor market frictions for young unauthorized immigrants by giving them deportation relief and work authorization. This paper looks at how DACA has affected unauthorized immigrants eligible for DACA. I find that those eligible for DACA are more likely to work. This increase in the likelihood of working comes from both a movement into the labor force and a decrease in unemployment. Those in the bottom of the income distribution have seen increases in their income. I also find some evidence of DACA increasing unauthorized immigrants GED attainment, although this evidence is at most suggestive.

The results of this paper shed light on how the lack of legal status in the United States depresses individuals' labor market outcomes. The results speak directly to how deportation relief and work authorization affect young unauthorized immigrants. Studying the effects of DACA gives insights into how future immigration policies, such as an amnesty program or DAPA, would affect their target populations. As immigration policies are studied and refined, they will be able to better benefit the large population of unauthorized immigrants in the United States.

Appendix A. Supplementary data

Supplementary data to this article can be found online at <http://dx.doi.org/10.1016/j.jpubeco.2016.08.014>.

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Evaluating the Impact of Immigration Policies on Health Status Among Undocumented Immigrants: A Systematic Review

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Abstract Over the past two decades, new anti-immigration policies and laws have emerged to address the migration of undocumented immigrants. A systematic review of the literature was conducted to assess and understand how these immigration policies and laws may affect both access to health services and health outcomes among undocumented immigrants. Eight databases were used to conduct this review, which returned 325 papers that were assessed for validity based on specified inclusion criteria. Forty critically appraised articles were selected for analysis; thirty articles related to access to health services, and ten related to health outcomes. The articles showed a direct relationship between anti-immigration policies and their effects on access to health services. In addition, as a result of these policies, undocumented immigrants were impacted by mental health outcomes, including depression, anxiety, and post-traumatic stress disorder. Action items were presented, including the promotion of cultural diversity training and the development of innovative

strategies to support safety-net health care facilities serving vulnerable populations.

Keywords Access to health services · Health outcomes · Health status · Anti-immigration policies and laws · Undocumented immigrants

Introduction

Due to vastly different living standards caused by large income disparities between developed and developing countries, people have been moving to more promising and developed regions throughout history [1–3]. We have seen signs of this phenomenon in the 1990s when Africans crossed the Sahara desert and climbed barbed wire fences in the Spanish enclaves of Ceuta and Melilla in order to enter the European Union. During this time, the number of sub-Saharan undocumented immigrants to Europe started to rise, prompted by the rapidly changing political map of

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sub-Saharan Africa, which ultimately caused people to escape political instability and economic decline [4, 5].

Another important moment in the history of mass migration occurred in 1980 and in August 1994 in Communist Cuba. In 1980, the economic and political pressure placed on Cubans living in the island had reached a breaking point. In the midst of this distress, more than 10,000 Cubans flooded the Peruvian Embassy seeking asylum. The Cuban government responded by opening the port of Mariel to those wishing to leave the country while also taking advantage of the situation to “clean up” the Cuban penitentiary system by expelling hundreds of imprisoned homosexuals and other individuals with criminal records. As a result of this mass exodus, more than 125,000 Cuban refugees arrived in Miami in what became known as the “Mariel boatlift” [6, 7]. Again in August 1994, the Cuban *balseros*, or rafter crisis, occurred in which more than 35,000 people fled the island toward Florida in the span of a few weeks [8, 9].

Ironically, these two examples of the migration of Sub-Saharan Africans to Europe and Cubans to the US resulted in radically different responses from the receiving nations: Cubans were granted refugee status in the US, while Africans struggling with similar economic and political conditions did not receive the same treatment from European nations [10, 11]. Refugee status for Cubans allowed them greater access to health services in the US, which was not the case for undocumented Africans in the European Union. Together, these two cases point to the complexity of immigration laws and policies and how they relate to access to health services and health outcomes. In this paper, we consider this complexity and offer a critical analysis of immigration laws and policies and how they impact access to health services and health outcomes among undocumented immigrants and their families, an area of research which merits greater scholarly attention.

There are several factors that lead to the implementation of immigration policies aimed at curbing “illegal immigration,” including political, racial, terrorism, and economic factors. However, economic crisis and financial instability can lead governments to respond with stricter immigration laws, and oftentimes, undocumented immigrants are invoked as the scapegoats for these economic and financial crises. The world has gone through major financial crises before, including the Great Depression in 1929–1933, when the US lost one-third of its Gross Domestic Product (GDP) [12, 13]. Similarly, Japan, which had a dynamic economy, was weakened considerably and ended up in stagnation for more than a decade starting in the 1980s [14]. Argentina’s economy shrunk by 20 % in 2001–2002, leading to a period of economic turmoil and instability plaguing the entire region of Latin America [15, 16]. Interestingly, these global financial crises did not result in the implementation of harsher immigration policies.

However, the current financial crisis across the globe has incentivized receiving nations to respond to waves of migration by targeting undocumented immigrants and illegal immigration through various laws and policies. The current global financial crisis has also led to the emergence of draconian immigration policies and laws that have had a tremendous impact on immigrants’ access to critical health services and health outcomes, including access to HIV and STI screenings and care. Understanding this impact in different countries will help develop appropriate solutions to address the wide range of health issues affecting undocumented immigrants. Our main objective is to advocate responsible positions on undocumented immigrants’ health and on immigration policy relating to health care for the benefit of the public, our patients, and the medical profession as a whole.

Undocumented Immigrants

Immigrant is a term used to describe foreign nationals who enter a country for purposes of permanent resettlement. In most countries, the immigration laws, including in the United States and Canada, do not classify “temporary workers” as immigrants. However, when temporary workers decide to settle permanently in their new nations, they are then reclassified as immigrants. In general, there are three broad categories of immigrants: (1) voluntary migrants who come to join relatives already settled in the receiving nation or to fill particular jobs for which expertise may be lacking among nationals; (2) refugees and asylum seekers who enter the country to avoid persecution; and (3) undocumented immigrants who enter the country illegally.

The term undocumented immigrant has been operationalized using certain factors: (1) legally entered the nation state or territory but remained in the country after their visa/permit expired; (2) received a negative decision on their refugee/asylee application but remained in the country; (3) experienced changes in their socioeconomic position and could not renew residence permit but remained in the country; (4) used fraudulent documentation to enter the country or territory; or (5) unlawfully entered the country or territory, including those who were smuggled.

In this systematic review, we focus on the third category of immigrants, undocumented immigrants, due to the vulnerability of this particular community and the existing research establishing health disparities among this group when compared to other subcategories of immigrants, including documented immigrants [17–19]. Undocumented immigrants originate from countries with long-term war or civil unrest, or in some cases they migrate for particular economic, cultural, social, and political reasons. Undocumented immigrants have often experienced multiple pre-and-post migration stressful events, including imprisonment, rape, ethnic cleansing, physical violence, economic distress, torture, and many

others. These unique challenges make them prone to higher rates of morbidity and mortality [20–24].

Methods

A multiple streams (MS) model of policy process was used to conceptualize the policy process regarding immigration policies targeting undocumented immigrants. MS is a framework that explains how policies are made by national governments under conditions of ambiguity. It theorizes at the systemic level, and it incorporates an entire system or a separate decision as the unit of analysis. The MS model views the policy process as composed of three streams of actors and processes: a problem stream, consisting of problems and their proponents; a policy stream, containing a variety of policy solutions and their proponents; and a political stream, consisting of public officials and elections. These streams often operate independently except during windows of opportunities, when some or all of the streams may intersect and cause substantial policy change [25–27].

In addition, we designed and reported this systematic review according to the PRISMA statement which ensures the highest standard in systematic reviewing [28]. The PRISMA statement consists of an evidence-based checklist of 27 items and a four-phase flow diagram. The checklist includes items deemed essential for transparent reporting of a systematic review. Articles were critically appraised according to the methodology by O’Rourke [29] and Portney [30]. The articles were assessed for validity based on sampling bias by analyzing the subjects and inclusion criteria; internal validity was determined by analyzing the design and methods used in the study; reliability was assessed by analyzing the procedures used; and attrition bias by reviewing the data analysis sections, including qualitative and quantitative methods. Each article received a grade according to its ability to meet these criteria. Policy analysis manuscripts were further assessed based on the legal framework used to conduct the analysis.

Article Selection

The timeframe chosen was 1990–2012, as the results aimed to be as relevant as possible to the current global state of affairs regarding immigration policies and health status as well as health outcomes among undocumented immigrants. A total of eight databases were used to search relevant papers, including three legal and four health and medical databases (Pegasus-Columbia Law Library’s online catalog, CLIO Beta, LexisNexis, Westlaw, JAMA and Archives, MEDLINE, PsycINFO, PubMed).

Article abstracts were recommended for full-length initial review if the abstract subject pertained to

immigration policies and access to health services and health outcomes, and met the following conditions: (1) mentioned the terms “undocumented immigrants”, “refugees”, “asylees”, “immigration laws”, “immigration policies”, “anti-immigration rhetoric”, “access to health care”, “health outcomes”, or “health disparities”; and (2) established association between immigration policies and access to health services or health outcomes. The authors selected the search terms based on a preliminary test search. The search was further refined by including the terms “methodology”, “outcome”, and “intervention”.

The authors excluded articles that did not feature a title or abstract. They also excluded articles that were book chapters, conference abstracts, had no listed authors, or were not available in English or Spanish. Articles that did not include undocumented immigrants in their analysis were excluded. In addition, articles that did not describe a research project or study were excluded. Articles were included for full-length final review if they fit the following criteria: (1) the immigrant population included was undocumented as opposed to documented immigrants; (2) access to health services and health outcomes were the primary focus of the study; (3) the study reported quantitative or qualitative results or rigorous policy analysis; and (5) articles were published in English or Spanish.

Results

Immigration Policies and Laws

Using the multiple streams (MS) model of policy process, we were able to deconstruct the framework that explains how immigration policies are made and implemented (Table 1). The passage of anti-immigration policies through the legislative, executive, and judicial branches, as exemplified in our review, was fueled in most cases by an anti-illegal immigration rhetoric that came about as a result of “economic and social problems” in the country. As shown by the cases of Australia [31], United States [17, 32], Spain [33], and France [34] to mention a few, undocumented immigrants are being negatively perceived by many policymakers and powerful interest groups and scapegoated as causing domestic economic downturn. Our review also found that most of these anti-illegal immigration initiatives were proposed under a “policy” or “political” umbrella to attract voters in certain localities with strong “anti-immigration” sentiments.

In addition, using the MS model led us to further understand how the sources of immigration enforcement power vary by country and jurisdiction. Countries use the judiciary, legislative, or executive branches to enforce

Table 1 Policy process

Streams	Description
Problem stream	Given the various conditions that exist regarding illegal migration, policy makers and political stakeholders define these as problems using a number of criteria such as statistics based on independent research determining that undocumented immigrants are not only a burden to the state but also to the federal governments or the existence of dramatic events or crises as a result of illegal migration, including refugee crises, existence of drug cartels, and border health and criminal history.
Policy stream	Immigration policies are generated by various groups or stakeholders including think tanks, bureaucrats, congressional staff, politicians, and academics. Immigration policies are usually drafted by considering the level of technical and implementation feasibility as well as their acceptable value. As is the case with most strict immigration policies, they are usually effectively introduced in localities with high levels of anti-immigration sentiments.
Political stream	The political stream consists of the “national mood” or the overall sentiment of a country or region that may change at any given time due to pressure from campaigns created by particular interest groups with a political agenda, and administrative or legislative turnover where new administrative staff is likely to create an environment of change regarding immigration policies.

these powers. Powers come through a complex body of statutes, rules, and case law governing entry into a particular country. However, there is a general consensus that immigration control is an exercise of the executive power; that is, it is exercised by the executive arm of the government. A unique characteristic encountered in the field of immigration law is the retention of discretion, which is less amenable to control than the application of specific rules and standards. A subjective approach is introduced with discretion and issues such as discrimination, bias, and prejudice might be present. Hence, the discretionary nature of immigration law is at the root of much of the criticism that has been directed against these laws.

In the United States, for example, one can easily see the intersection of the different branches of government as they each relate to immigration law. There are two sources of immigration powers in the United States: (1) the enumerated powers which are reflected through the Commerce Clause, Migration or Importation Clause, Naturalization Clause and the War Clause and (2) Implied Constitutional Powers. However, several states including Arizona, Alabama, Indiana, North Carolina, and others have recently tried to implement statewide immigration laws, even though Supreme Court precedents grant only the federal

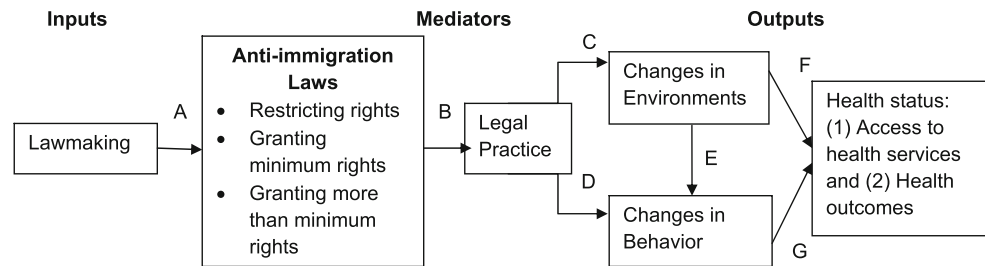
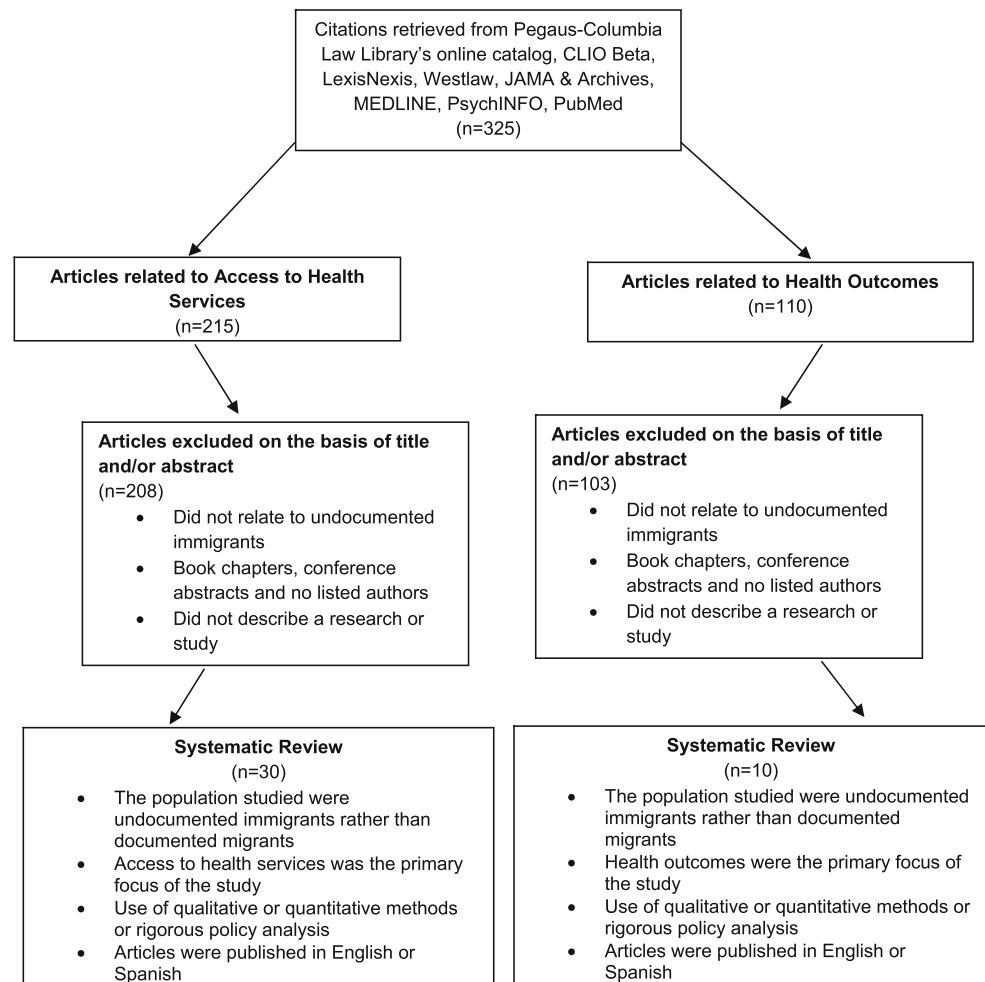
government the power to control immigration law. For well over a century, since Congress first passed comprehensive immigration legislation, it has been firmly established that the federal government has exclusive reign over immigration and nationality law. As the Court stated unequivocally in *De Canas v. Bica* (1976), “[p]ower to regulate immigration is unquestionably exclusively a federal power.” Therefore, the US government enforces immigration laws without interference from the states.

A casual diagram presenting how anti-immigration policies affect access to health services and health outcomes has also been developed as a result of the application of the MS methodology (Fig. 1). The way anti-immigration laws and policies influence health status is illustrated in this figure. In general, the independent variable will be an aspect of lawmaking (Path A) guided by any of the policy streams (i.e., problem, policy or political). Anti-immigration laws and policies are the outcome variables and political and other jurisdictional characteristics are often the key explanatory variables tested.

Path B and C examine key mediators in the causal chain linking anti-immigration laws and health. Laws and policies may vary considerably in the degree to which they are effectively implemented. Paths C and D involve studying the effect of law on environments and health behaviors. The term environment does not only refer to the physical environment, but also to social structures and institutions such as private and federally-funded health clinics and not-for-profits. Anti-immigration laws and their implementation affect social institutions and environments by increasing or decreasing available resources or expanding or reducing rights. Laws may affect health behaviors both directly (Path D) and by shifting the environmental conditions that make particular behavioral choices more or less attractive (Path C-E). Ultimately, changes in environments and behaviors lead to changes in health status (e.g., access to health services and health outcomes) leading to changes in population-level morbidity and mortality.

Systematic Review

A search produced a total of 325 titles across the eight databases (Fig. 2). A total of 215 titles related to access to health services and 110 to health outcomes. The majority of the exclusions were based on either the fact that the population group in the study was not “undocumented” or the study did not include an actual “immigration policy or law.” A total of 40 peer-reviewed manuscripts and articles were selected for critical appraisal; 30 related to access to health services and 10 to health outcomes (Table 2).

Fig. 1 Influence of Anti-immigration Policies and Laws on Health Status**Fig. 2** Search strategy and results

Access to Health Services

In terms of access to health services, a total of 215 articles were identified and met the inclusion criteria for the initial review. The authors identified thirty critically appraised articles to be included in this review. Researchers and think tanks have used a wide range of methodologies to assess the relationship between immigration policies and access to health services among undocumented immigrants. Mixed-methods approaches have been used with the inclusion of both qualitative and quantitative approaches [35, 36]. However, the use of focus groups and quantitative

questionnaires to measure perceived discrimination and access to health services—along with the critical understanding of immigration laws through legislative reviews—seem to be the most appropriate mixed-method approach used [37, 38].

Immigration laws and policies explicitly provide or restrict access to health services. Three categories were identified regarding access to health services: (1) laws and policies restricting rights to access health services, (2) laws and policies granting minimum rights to health services, and (3) laws and policies granting more than minimum rights to health services. Several laws prohibited or

Table 2 Summary of articles

Authors	Year	Title	Journal	Study type	Country	Sample size
Zambrana, R. E., Ell, K., Dorrington, C., Wachsmann, L., and Hodge, D.	1994	The relationship between psychosocial status of immigrant Latino mothers and use of emergency pediatric services.	Health and social work	Policy analysis	United States	N/A
Asch, S., Leake, B., and Gelberg, L.	1994	Does fear of immigration authorities deter tuberculosis patients from seeking care?	The Western Journal Of Medicine	Quantitative	United States	313
Sorensen, W., Lopez, L., and Anderson, P.	2001	Latino AIDS Immigrants in the Western Gulf States: A Different Population and the Need for Innovative Prevention Strategies.	Journal Of Health and Social Policy	Policy analysis	United States	N/A
Berk, M., and Schur	2001	The effect of fear on access to care among undocumented Latino immigrants.	Journal Of Immigrant Health	Quantitative	United States	973
Hagan, J., Rodriguez, N., Capps, R., and Kabiri, N.	2003	The Effects of Recent Welfare and Immigration Reforms on Immigrants' Access to Health Care.	International Migration Review	Quantitative	United States	N/A
Manfellotto, D.	2003	Case study 5: From misinformation and ignorance to recognition and care: immigrants and homeless in Rome, Italy.	Health Systems Confront Poverty	Policy analysis	Italy	N/A
Romero-Ortuño, R.	2004	Access to health care for illegal immigrants in the EU: should we be concerned?	European Journal Of Health Law	Policy analysis	European Union	N/A
Davidovich, N., and Shvarts, S.	2004	Health and Hegemony: Preventive Medicine, Immigrants and the Israeli Melting Pot.	Israel Studies	Policy analysis	Israel	N/A
Limia Redondo, S., Alonso Blanco, C., and Salvadores Fuentes, P.	2005	The rights of immigrants to healthcare.	Metas De Enfermería	Policy analysis	Spain	N/A
Oxman-Martinez, J., Hanley, J., Lach, L., Khanlou, N., Weerasinghe, S., and Agnew, V.	2005	Intersection of Canadian policy parameters affecting women with precarious immigration status: a baseline for understanding barriers to health.	Journal of Immigrant Health	Policy analysis	Canada	N/A
Oxman-Martinez, J., Hanley, J., Lach, L., Khanlou, N., Weerasinghe, S., and Agnew, V.	2005	Intersection of Canadian policy parameters affecting women with precarious immigration status: a baseline for understanding barriers to health.	Journal Of Immigrant Health	Policy analysis	Canada	N/A
McSherry, B., and Dastyari, A.	2007	Providing Mental Health Services and Psychiatric Care to Immigration Detainees: What Tort Law Requires.	Psychiatry, Psychology and Law	Policy analysis	Australia	N/A
Moya, E., and Shedlin, M.	2008	Policies and laws affecting Mexican-origin immigrant access and utilization of substance abuse treatment: obstacles to recovery and immigrant health.	Substance Use And Misuse	Qualitative	United States-Mexico Border	30
Venters, H. D., McNeely, J., and Keller, A. S.	2009	HIV screening and care for immigration detainees	Health and Human Rights: An International Journal	Policy analysis	United States	N/A

Table 2 continued

Authors	Year	Title	Journal	Study type	Country	Sample size
Oucho, O. J., and Ama, N. O.	2009	Immigrants' and Refugees' Unmet Reproductive Health Demands in Botswana: Perceptions of Public Health Providers.	South African Family Practice	Quantitative	Botswana	851
Okolec, J. E.	2009	Health Care for the Undocumented: Looking for a Rationale.	Journal Of Poverty	Policy analysis	United States	N/A
Ducci, M., and Symmes, L.	2010	La pequeña Lima: Nueva cara y vitalidad para el centro de Santiago de Chile.	Eure	Policy analysis	Chile	N/A
Stead, K.	2010	Critical condition: using asylum law to contest forced medical repatriation of undocumented immigrants.	Northwestern University Law Review	Policy analysis	United States	N/A
Weiss, R.	2011	France: recent immigration-related developments affecting persons suffering from serious illnesses.	HIV/AIDS Policy and Law Review/Canadian HIV/AIDS Legal Network	Policy analysis	France	N/A
Aponte-Rivera, V. R., and Dunlop, B. W.	2011	Public Health Consequences of State Immigration Laws.	Southern Medical Journal	Policy analysis	United States	N/A
da Lomba, S.	2011	Irregular migrants and the human right to health care: a case-study of health-care provision for irregular migrants in France and the UK.	International Journal Of Law In Context	Policy analysis	France and the UK	N/A
Aponte-Rivera, V. R., and Dunlop, B. W.	2011	Public Health Consequences of State Immigration Laws.	Southern Medical Journal	Policy analysis	United States	N/A
Martinez, O., Dodge, B., Reece, M., Schnarrs, P. W., Rhodes, S. D., Goncalves, G., and ... Fortenberry, J.	2011	Sexual health and life experiences: voices from behaviourally bisexual Latino men in the Midwestern USA.	Culture, Health and Sexuality	Qualitative	United States	25
Chavez, L.	2012	Undocumented immigrants and their use of medical services in Orange County, California.	Social Science and Medicine	Quantitative	United States	805
Larchanché, S.	2012	Intangible obstacles: Health implications of stigmatization, structural violence, and fear among undocumented immigrants in France.	Social Science and Medicine	Ethnographic	France	N/A
Konczal, L., and Varga, L.	2012	Structural violence and compassionate compatriots: immigrant health care in South Florida.	Ethnic and Racial Studies	Qualitative	United States	20
Celone, M.	2012	Undocumented and unprotected: solutions for protecting the health of America's undocumented Mexican migrant workers.	Journal Of Contemporary Health Law and Policy	Policy analysis	United States	N/A
Baker, D., and Chappelle, D.	2012	Health Status and Needs of Latino Dairy Farmworkers in Vermont.	Journal Of Agromedicine	Quantitative and qualitative	United States	120
Hardy, L., Getrich, C., Quezada, J., Guay, A., Michalowski, R., and Henley, E.	2012	A Call for Further Research on the Impact of State-Level Immigration Policies on Public Health.	American Journal Of Public Health	Qualitative	United States	60

Table 2 continued

Authors	Year	Title	Journal	Study type	Country	Sample size
Berlinger, N., and Raghavan, R.	2013	The Ethics of Advocacy for Undocumented Patients.	Hastings Center Report	Policy analysis	United States	N/A
Nickerson, A., Bryant, R. A., Brooks, R., Steel, Z., and Silove, D.	2009	Fear of Cultural Extinction and Psychopathology Among Mandaean Refugees: An Exploratory Path Analysis.	CNS Neuroscience and Therapeutics	Quantitative	Australia	315
Detlaff, A.J., Vidal de Haymes, M., Velazquez, S., Mindell, R., Bruce, L.	2009	Emerging issues at the intersection of immigration and child welfare: results from a transnational research and policy forum.	Child Welfare	Policy analysis	United States	N/A
Johnston, V.	2009	Australian asylum policies: have they violated the right to health of asylum seekers?	Australian and New Zealand Journal Of Public Health	Policy analysis	Australia	N/A
Hacker, Karen, Jocelyn Chu, Carolyn Leung, Robert Marra, Alex Pirie, Mohamed Brahimi, Margaret English, Joshua Beckmann, Dolores Acevedo-Garcia, and Robert, P. Marlin	2010	The impact of Immigration and Customs Enforcement on immigrant health: Perceptions of immigrants in Everett, Massachusetts, USA.	Social Science and Medicine	Qualitative	United States	52
Androff, D. K., Ayon, C. C., Becerra, D. D., Gurrola, M. M., Salas, L. L., Krysiak, J. J., and Segal, E. E.	2011	US immigration policy and immigrant children's well-being: The impact of policy shifts.	Journal of Sociology and Social Welfare	Policy analysis	United States	N/A
Fountain C, Bearman P.	2011	Risk as Social Context: Immigration Policy and Autism in California.	Sociological Forum	Quantitative	United States	2,421,339
Steel, Z., Liddell, B. J., Bateman-Steel, C. R., and Zwi, A. B.	2011	Global Protection and the Health Impact of Migration Interception.	Plos Medicine	Policy Analysis	Global	N/A
Steel, Z., Momartin, S., Silove, D., Coello, M., Aroche, J., and Tay, K.	2011	Two year psychosocial and mental health outcomes for refugees subjected to restrictive or supportive immigration policies.	Social Science and Medicine	Quantitative	Australia	104
Virtuell-Fuentes, E.A.; Miranda, P.Y., and Abdulrahim, S.	2012	More than culture: Structural racism, intersectionality theory, and immigrant health.	Social Science and Medicine	Policy analysis	United States	N/A
Arbona C, Olvera N, Rodriguez N, Hagan J, Linares A, Wiesner M.	2012	Acculturative Stress among Documented and Undocumented Latino Immigrants in the United States.	Hispanic Journal of Behavioral Sciences	Quantitative	United States	261

Table 2 continued

Law or Immigration Policy	Length	Results	Domains
Immigration Policies	N/A	This article focuses on consistent empirical evidence which has shown that low-income Latino populations tend to underutilize health care services and do not have a usual source of care. There has been an increasing recognition of the need to collect data on the fastest growing segment of the US population. A major social problem is the welfare of young children, especially the plight of poor and minority children. Institutional barriers, such as high cost of medical care, lack of bilingual or bicultural personnel, discrimination, and immigration laws, have also contributed to low use or inappropriate use of health services. A complex set of social and psychological factors influence a mother's decision to seek pediatric services, including work status of the mother, multiple symptoms in the child, marital status, culture, and emotional status. In addition, organizational or structural characteristics of the current health care delivery system present barriers to appropriate use of services for Latino women and children. Several studies have concluded that racism and discrimination are endemic in the delivery, administration, and planning of health care services.	Access to health services
State law requiring health care professionals, laboratories, and governmental agencies to report all suspected and confirmed cases of tuberculosis in Los Angeles	From April to September 1993	Most patients (71 %) sought care for symptoms rather than as a result of the efforts of public health personnel to screen high-risk groups or to trace contacts of infectious persons. At least 20 % of respondents lacked legal documents allowing them to reside in the United States. Few (6 %) feared that going to a physician might lead to trouble with immigration authorities. Those who did were almost 4 times as likely to delay seeking care for more than 2 months, a period of time likely to result in disease transmission. Patients potentially exposed an average of 10 domestic and workplace contacts during the course of the delay. Any legislation that increases undocumented immigrants' fear that health care professionals will report them to immigration authorities may exacerbate the current tuberculosis epidemic.	Access to health services
Immigration Policy	N/A	By weaving together immigration and AIDS epidemiological patterns, the impact of tightening immigration policy, and masked sexual behaviors, the authors express concern for a lack of communication with, and lack of health care access for, Latinos in the Western Gulf Coast. To combat this deficit, health care and social workers need to be aware of different social, cultural, and behavioral contexts in Latino populations. Policy makers should support efforts to provide health care workers with skills through appropriate language and cultural sensitivity workshops.	Access to health services
California's Proposition 187	From October 1996 to July 1997	The study was found that 39 % of the undocumented immigrants expressed fear about receiving medical services because of undocumented status. Those reporting fear were likelier to report inability acquiring medical and dental care, prescription drugs, and eyeglasses. Hence it can be concluded that concern about immigration status decreases the likelihood of receiving care.	Access to health services

Table 2 continued

Law or Immigration Policy	Length	Results	Domains
Personal Responsibility and Work Opportunity Reconciliation Act and the Illegal Immigration Reform and Immigrant Responsibility Act	From 1997 to 1999	The study presents findings of interviews with public agency officials, directors of community-based organizations, and members of 500 households during two research phases, 1997–1998 and 1998–1999. In the household sample, 20 % of US citizens and 30 % of legal permanent residents who reported having received Medicaid during the five years before they were interviewed also reported losing the coverage during the past year. Some lost coverage because of welfare reform restrictions on noncitizen eligibility or because of changes in income or household size, but many eligible immigrants also withdrew from Medicaid “voluntarily.”	Access to health services
Immigration Policies	N/A	The article presents a case study of immigrants and homeless people in Rome, Italy. It stresses that the poor experience difficulties in accessing the social as well as public health networks.	Access to health services
Immigration Policies	N/A	Evaluates the access to health care for illegal immigrants in the European Union (EU). Efforts of EU Member States to control illegal immigration; Need for national legislations and implementation practices to be upgraded in order to grant illegal immigrants effective access to health care; Declarations on the Human Rights laws; Limitations of the Charter of Fundamental Rights of the European Union.	Access to health services
Immigration Policy	N/A	Issues of prejudice, racial discrimination, and access to health services are part of this discourse. The state of Israel provides a unique case study for immigration and health issues, and this article focuses on Israeli health and immigration policy in the 1950's. Health and illness are rare topics in studies relevant to the history of Israeli society.	Access to health services
Immigration Law for Aliens	N/A	The paper presents a review of the laws governing immigration in our country from the time the first regulation in relation to this subject entered into effect in 1994—the so called “Immigration Law for Aliens”—which was rather simple in its contents, to the “Organic Law on Rights and Freedom of the Immigrants in Spain and their social integration”, published in January 2000, as well as the Deontological Code of Nursing in Spain. The aim of this paper is to attempt to ascertain the type of healthcare type that these immigrants have the right to receive, whether their rights should be the same as those immigrants who are legally living in Spain, and what the Deontological Nursing Code with regards to immigrant patients establishes in relation to immigrant patients.	Access to health services
Federal Immigration Policy	N/A	Federal immigration and health policies create direct barriers to health through regulation of immigrants’ access to services as well as unintended secondary barriers.	Access to health services

Table 2 continued

Law or Immigration Policy	Length	Results	Domains
2001 Immigration and Refugee Protection Act	N/A	Federal immigration and health policies create direct barriers to health through regulation of immigrants' access to services as well as unintended secondary barriers. These direct and secondary policy barriers intersect with each other and with socio-cultural barriers arising from the migrant's socio-economic and ethno-cultural background to undermine equitable access to health for immigrant women living in Canada.	Access to health services
Immigration Policy	NA	In <i>S v Secretary, Department of Immigration and Multicultural and Indigenous Affairs</i> [2005] FCA 549, Justice Paul Finn held that the Commonwealth had breached its duty to ensure that reasonable care was taken of two Iranian detainees, 'S' and 'M', in relation to the treatment of their respective mental health problems. The lack of proper psychiatric care at Baxter Detention Centre was also highlighted in the Palmer Inquiry into the detention of Cornelia Rau. This article analyses the Commonwealth Government's legal duty to provide adequate levels of mental health services and psychiatric care to immigration detainees as well as the implications of the cases brought on behalf of a child refugee, Shayan Badraie and an Iranian man, Parvis Yousefi against the Department of Immigration and Citizenship and the detention centre operators.	Access to health services
Immigration Policy	2007	Qualitative, semi-structured interviews were implemented to assess the dynamic social and economic factors that affect the delivery and utilization of treatment services, with emphasis on the impact of recent immigration-related laws and policies. The research provides initial data for evidence-based intervention and reinforces the need for culturally and gender appropriate treatment services for poor immigrants and their families.	Access to health services
Immigration Policies	N/A	The authors conclude that the system of immigration detention in the US fails to adequately screen detainees for HIV and delivers a substandard level of medical care to those with HIV.	Access to health services

Table 2 continued

Law or Immigration Policy	Length	Results	Domains
Immigration Policies	N/A	<p>Majority of the health providers indicated that the most important reproductive health needs of the immigrants and refugees, namely, pregnancy related (Prenatal, Obstetrics, Postnatal conditions), STI treatment, HIV/AIDS treatment and counseling, and family planning were not different from those of the locals. However, some major differences noted between the local population and the foreigners were (1) that ARV treatments and PMTCT were never accessible to the non-citizens; (2) that while treatments and other health services were free to Botswana (citizens of Botswana), a fee was charged to non-citizens. The major reasons for inability to access these services were: (1) The immigrants and refugees have to pay higher fees to access the reproductive health services (2) Once an immigrant or refugee is identified as HIV positive, there are no further follow-ups on the patient such as detecting the immune status using CD4 count or testing the viral load (3) The immigrants and refugees do not have referral rights to referral clinics/hospitals for follow-ups in case of certain health conditions (4) The immigrants and refugees are required to enlist in the Medical Aids scheme which can help offset part of the costs for the desired services.</p>	Access to health services
Immigration Policy	N/A	<p>The plight of the undocumented in the United States elicits strong feelings on both sides of the debate. One viewpoint takes a strict immigration policy perspective and opposes the ability of the undocumented to access publicly financed programs and services including access to healthcare. Without the sanction of law, those taking a more flexible view must find persuasive arguments to permit the access to public services. The choice of arguments includes reframing the concept of citizenship; accepting the premise of basic human needs that invokes a human rights perspective and concerns about social justice; developing an ethic of care; or invoking a “common good” perspective that acknowledges the role of public health.</p>	Access to health services
Immigration Policy	N/A	<p>The recent migrations to Chile are an unprecedented social phenomenon in the country. This work focuses on the impact of Peruvian migrants, as the major migrant group in Santiago’s downtown, and their recovery of semi-abandoned places and shops, creating a “Little Lima”. This is an area where migrants look for work, eat and enjoy themselves. The study reveals the positive effects of this phenomenon in the recovery and revitalization of central areas, and in reinvigorating trade and the use of public spaces. It also recognizes the precarious nature of migrant dwelling in older housing in the center, which creates problems of overcrowding, and access to health and education, which—given the absence of social policies aimed at immigration—can (and is starting to) create short-term conflicts.</p>	Access to health services

Table 2 continued

Law or Immigration Policy	Length	Results	Domains
Asylum Policies	N/A	The article explores the use of asylum law to contest forced medical repatriation of undocumented immigrants.	Access to health services
Immigration Law of 2011	N/A	France enacted a new immigration law on 16 June 2011. Among other things, the law changes the criteria for issuing residence permits on medical grounds. Foreigners with a medical condition who apply for a residence permit must now show that treatment and care are unavailable in their country of origin. It is no longer sufficient to show a lack of effective access to such treatment or care.	Access to health services
Illegal Immigration Reform and Enforcement Act of 2011	N/A	They argue that the Illegal Immigration Reform and Enforcement Act of 2011 adopted by Georgia has a potential effect on the overall health of the public and immigrants. The authors comment that the enforcement of the law can harm the public health in various ways including reduction in the prevention of illnesses, relocation of illegal immigrants, and increase of illegal healthcare services.	Access to health services
Immigration Policy	N/A	With this in mind, this article considers the significance of a human rights approach to access to health care and undertakes a comparative study of health-care provision for irregular migrants in France and the UK. Irregular migrants are ineligible for national membership because they have breached immigration laws. Consequently their right to health care may only arise from international human rights law. This comparative study, however, shows that states resist the idea of a right to health care for people they regard as a threat to national sovereignty. Yet the author posits that the exercise of the government's immigration power may be reconciled with the realisation of irregular migrants' human right to health care.	Access to health services
Illegal Immigration Reform and Enforcement Act of 2011	N/A	The authors reflect on the impact of the state immigration laws to public health in the US. They argue that the Illegal Immigration Reform and Enforcement Act of 2011 adopted by Georgia has a potential effect on the overall health of the public and immigrants. The authors comment that the enforcement of the law can harm the public health in various ways including reduction in the prevention of illnesses, relocation of illegal immigrants, and increase of illegal healthcare services.	Access to health services

Table 2 continued

Law or Immigration Policy	Length	Results	Domains
Indiana Senate Bill 590	From May 2010 to January 2011	Men described their unique migration experiences as behaviourally bisexual men in this area of the USA, as well as related sexual risk behaviours and health concerns. Lack of culturally congruent public health and community resources for behaviourally bisexual men in the Midwestern USA were identified as significant barriers. As in other studies, familial and community relationships were significant for the participants, especially in terms of the decision to disclose or not disclose their bisexuality. Additionally, alcohol and other drugs were often used while engaging in sexual behaviours particularly with male and transgender, as well as female, partners.	Access to health services
US Immigration Policies	From January 4 to January 30, 2006.	Findings show that undocumented immigrants had relatively low incomes and were less likely to have medical insurance; experience a number of stresses in their lives; and underutilize medical services when compared to legal immigrants and citizens. Predictors of use of medical services are found to include undocumented immigration status, medical insurance, education, and gender. Undocumented Latinos were found to use medical services less than legal immigrants and citizens, and to rely more on clinic-based care when they do seek medical services.	Access to health services
Finance Act of 2011	From March 2007 to July 2008	The paper analyzes how interaction among intangible factors—namely social stigmatization, precarious living conditions, and the climate of fear and suspicion generated by increasingly restrictive immigration policies—hinders undocumented immigrants' access to health care rights and, furthermore, minimizes immigrants' sense of entitlement to such rights in this European context. Intangible factors such as fear and suspicion have powerful "subjectivation" effects, which influence how both undocumented immigrants and their interlocutors (i.e., healthcare providers) think about "deservingness." Medical anthropology is in a unique position to demonstrate and theorize these factors and effects, which inform contemporary debates about migration and "health ethics."	Access to health services
Immigration Policy	From 2009 to 2010	Immigrants in South Florida often avoid primary health care even when offered freely and legally. This is because of bewilderment about bureaucratic requirements, fear of deportation and bills, and cultural folkways.	Access to health services
Immigration Reform and Control Act (IRCA) of 1986 and Case law	N/A	Specifically, this Comment explores the implementation of the Immigration Reform and Control Act (IRCA) of 1986 and case law that has had a profound effect on the interpretation of the interaction between federal immigration laws and benefits for undocumented immigrants. This Comment discusses the social, health, and economic impacts that affect the United States when undocumented immigrants are precluded from receiving health care.	Access to health services

Table 2 continued

Law or Immigration Policy	Length	Results	Domains
Immigration Policies	2012	<p>The study found, similar to other studies, the majority of workers were young, male Mexicans. However, the workers in this study, as compared to others, originated farther south in Mexico and there were significant regional differences in educational attainment. Workers defined health in terms of their ability to work and the majority believed themselves to be in good health. The majority felt that moving to the United States has not changed their health status. The most common health issue reported was back/neck pain, followed by dental and mental health issues. Workers are both physically and linguistically isolated and reported isolation as the most challenging aspect of dairy farm work. Fear of immigration law enforcement was the primary barrier to care.</p> <p>Findings from the study suggest that the law changed health-seeking behaviors of residents of a predominantly Latino neighborhood by increasing fear, limiting residents' mobility, and diminishing trust of officials. These changes could exacerbate barriers to healthy living, limit access to care, and affect the overall safety of the neighborhood.</p>	Access to health services
Law Enforcement and Safe Neighborhoods Act,	From May 2010 to June 2010		Access to health services
Immigration Policy	N/A	<p>Providing health care to these residents is an everyday concern for the clinicians and health care organizations who serve them. Uncertain how to proceed in the face of severe financial constraints, clinicians may improvise remedies—a strategy that allows our society to avoid confronting the clinical and organizational implications of public policy gaps. There is no simple solution—no quick fix—that will work across organizations (in particular, hospitals with emergency departments) in states with different concentrations of undocumented immigrants, varying public and private resources for safety-net health care, and differing approaches to law and policy concerning the rights of immigrants. However, every hospital can help its clinicians by addressing access to health care for undocumented immigrants as an ethical issue.</p>	Access to health services
Australia's immigration policies.	2006–2007	<p>Results indicated that trauma and living difficulties impacted indirectly on fear of cultural extinction, while PTSD (and not depression) directly predicted levels of anxiety about the Mandaean culture ceasing to exist. The current findings indicate that past trauma and symptoms of posttraumatic stress contribute to fear of cultural extinction. Exposure to human rights violations enacted on the basis of religion has significant mental health consequences that extend beyond PTSD. The relationship between perception of threat, PTSD, and fear of cultural extinction is considered in the context of cognitive models of traumatic stress.</p>	Health outcomes

Table 2 continued

Law or Immigration Policy	Length	Results	Domains
US Immigration Policies	N/A	In July 2006, the American Humane Association and the Loyola University Chicago School of Social Work facilitated a roundtable to address the emerging issue of immigration and its intersection with child welfare systems. More than 70 participants from 10 states and Mexico joined the roundtable, representing the fields of higher education, child welfare, international immigration, legal practice, and others. This roundtable created a transnational opportunity to discuss the emerging impact of migration on child welfare services in the United States and formed the basis of a continued multidisciplinary collaboration designed to inform and impact policy and practice at the local, state, and national levels. This paper presents the results of the roundtable discussion and summarizes the emerging issues that participants identified as requiring attention by child welfare systems to facilitate positive outcomes of child safety, permanency, and well-being.	Health outcomes
Asylum Policies	N/A	Findings reveal that Australian asylum policies of detention, temporary protection and the exclusion of some asylum seekers from Medicare rights have been associated with adverse mental health outcomes for this population. This is attributable to the impact of these policies on accessing health care and the underlying determinants of health for asylum seekers.	Health outcomes
Illegal Immigration Reform and Immigrant Responsibility Act of 1996, and the creation of the Immigration and Customs Enforcement (ICE)	N/A	Documented and undocumented immigrants reported high levels of stress due to deportation fear, which affected their emotional well-being and their access to health services.	Health outcomes
Immigration Policies	N/A	Immigrant children face many problems, including economic insecurity, barriers to education, poor health outcomes, the arrest and deportation of family members, discrimination, and trauma and harm to their communities. These areas of immigrant children's economic and material well-being are examined in light of restrictive and punitive immigration policies at the federal and local level.	Health outcomes
Proposition 187	N/A	Using a population-level data set of 1992–2003 California births linked to 1992–2006 autism case records, the authors show that the effects of state and federal policies toward immigrants are visible in the rise and fall of autism risk over time. The common epidemiological practice of estimating risk on pooled samples is thereby shown to obscure patterns and mis-estimate effect sizes. Finally, we illustrate how spatial variation in Hispanic autism rates reflects differential vulnerability to these policies. This study reveals not only the spillover effects of immigration policy on children's health, but also the hazards of treating individual attributes like ethnicity as risk factors without regard to the social and political environments that give them salience.	Health outcomes

Table 2 continued

Law or Immigration Policy	Length	Results	Domains
Immigration Policies	N/A	<p>The article explores the international immigration policy, highlighting the impact of immigration interception practices on public health. It examines the interception strategies used by states to prevent movement of irregular migrants, particularly the immigration detention and visa restrictions, which are inferred to pose serious threat to migrants' health and welfare. The humanitarian outcomes promoted by interception practices are discussed.</p> <p>The results indicated that TPVs had higher baseline scores than PPVs on the HTQ PTSD scale, the HSCL scales, and the GHQ. ANCOVA models adjusting for baseline symptom scores indicated an increase in anxiety, depression and overall distress for TPVs whereas PPVs showed improvement over time. PTSD remained high at follow-up for TPVs and low amongst PPVs with no significant change over time. The TPVs showed a significant increase in worry at follow-up. TPVs showed no improvement in their English language skills and became increasingly socially withdrawn whereas PPVs exhibited substantial language improvements and became more socially engaged. TPV holders also reported persistently higher levels of distress in relation to a wide range of post-migration living difficulties whereas PPVs reported few problems in meeting these resettlement challenges. The data suggest a pattern of growing mental distress, ongoing resettlement difficulties, social isolation, and difficulty in the acculturation process amongst refugees subject to restrictive immigration policies.</p>	Health outcomes
US Immigration Policies	N/A	<p>In this paper, the authors highlight the shortcomings of cultural explanations as currently employed in the health literature, and argue for a shift from individual culture-based frameworks, to perspectives that address how multiple dimensions of inequality intersect to impact health outcomes. Based on the review of the literature, the authors suggest specific lines of inquiry regarding immigrants' experiences with day-to-day discrimination, as well as on the roles that place and immigration policies play in shaping immigrant health outcomes. The paper concludes with suggestions for integrating intersectionality theory in future research on immigrant health.</p>	Health outcomes
Illegal Immigration Reform and Immigrant Responsibility Act	N/A	<p>Undocumented immigrants reported higher levels of the immigration challenges of separation from family, traditionality, and language difficulties than documented immigrants. Both groups reported similar levels of fear of deportation. Results also indicated that the immigration challenges and undocumented status were uniquely associated with extrafamilial acculturative stress but not with intrafamilial acculturative stress. Only fear of deportation emerged as a unique predictor of both extrafamilial and intrafamilial acculturative stress.</p>	Health outcomes

restricted immigrants from accessing basic health services, including emergency care. In particular, these policies explicitly stated that undocumented immigrants could not seek health services or contained clauses that prevented them from seeking health services and mandated professionals to report documentation status. Hence, being “undocumented” was used as a means of exclusion from vital services (e.g., HIV and STI services, prenatal care services) provided by governmental agencies or non-profit organizations receiving government funding [37, 39].

Some jurisdictions only provided health care to undocumented immigrants in detention centers [40–42]. Other countries have explicit laws and policies in which undocumented immigrants are entitled only to emergency care or care specified in terms such as “immediate or urgent” [43]. However, in many cases, even though these services were available to undocumented immigrants, they were hesitant to go to health centers or to receive emergency care due to potential retaliation and fear of deportation. A few countries had laws and policies that entitled undocumented immigrants access to health care beyond emergency care, in particular primary and secondary care [44]. However, this entitlement often involved administrative procedures, including the completion of applications and forms, that when put into practice, impaired access to care to a certain extent.

Perceived fear of deportation and harassment from authorities correlated to lack of access to a wider range of health services. Immigrants perceived these policies as a threat not only to them but also to their families and as sources of criminalization. In addition, in countries with explicit laws prohibiting undocumented immigrants from access to health services, we found that institutions such as law enforcement agencies and health care establishments discriminated against undocumented immigrants. In this way, undocumented immigrants not only feared deportation but also felt discriminated against and harassed by other governmental and non-governmental institutions. In particular, police checkpoints and immigration raids perpetuated the fear of and isolation from health services [38].

It is important to note the clear association between immigration policies and access to HIV services and care coordination services for HIV-positive, undocumented immigrants, including LGBT individuals. Timely entry into HIV care is critical for early initiation of therapy, immunological recovery, and improving chances of survival. However, undocumented Latinos are more likely to enter HIV care late in the disease course. Receiving a diagnosis of AIDS coupled with the presence of anti-immigration policies serve as major barriers to accessing adequate care. Participants not only felt threatened by anti-immigration policies and felt that they prevented them from accessing HIV services, but they also felt that the general lack of

health care accessibility and bureaucratic requirements served as barriers to receiving care [38, 45].

In California, where there has been a long-established pattern of migration from China, Mexico, and Central America, a more profound relationship between immigration policies and access to health services has been established. Several California immigration and health department policies were implemented during the 1990s to criminalize undocumented immigrants and prevent their use of health services, including HIV and STI screening services [17]. From a historical perspective, these policies seem to have had a profound impact on the current undocumented immigrant population in California. Undocumented immigrants in that state underutilize medical services when compared to legal immigrants and citizens; the main predictor of utilization of medical services is undocumented immigration status [17]. Recently, we have seen other states in the United States following the same path taken by California in the 1990s, including Indiana and North Carolina, where undocumented immigrants are prevented from using vital health services such as HIV screening and prenatal care by creating barriers including scrutiny of asking for documentation before accessing health services and the use of police checkpoints in front of health departments [38].

Other nations have adopted extreme mandatory detention policies, such as the one implemented in Australia in 1992, where detention is not predicated on merit-based assessments (such as the likelihood of absconding or suspected criminal intent) but follows automatically from the mode of arrival [46]. Detainees are generally denied the right to appeal to an independent judicial body or tribunal to challenge their detention. These particular detention policies have caused a tremendous fear among undocumented immigrants and increased persecution and prosecution of vulnerable populations, creating a major barrier to accessing health services. In addition, studies have documented that when these detention policies are enforced, even access to basic HIV medication and care are denied [47].

The presence of anti-immigration rhetoric also impacted health providers’ attitudes and behaviors towards serving the health needs of undocumented immigrants. Some providers, in localities where these anti-immigration policies were implemented, discriminated against undocumented immigrants by denying services and saw them as the “other,” serving this as another critical barrier to access to care. Institutional prejudice and discrimination as well as cultural differences were also reported by undocumented immigrants deterring them from seeking and receiving needed services [34, 38].

Most of the studies looking at the effect of immigration policies on access to health services seem to have been conducted in developed nations with the resources and

infrastructure available to carry out this type of empirical research. However, as new migration patterns and trends are being seen from developing nations to new emerging developed countries such as Brazil, India, and China, more research is needed in these countries to better understand the relationship between immigration policies and access to health services. In addition, health professionals and politicians need to work with these newly developed nations to develop resources and healthcare infrastructure in order to address and respond to the unique needs and challenges of undocumented immigrants.

Health Outcomes

In terms of health outcomes, a total of 110 articles were identified for the initial review and the authors selected ten critically appraised, peer-reviewed manuscripts for review. Immigration policies and migration interception practices implemented by receiving nations are a major global determinant of health. In particular, such policies and practices have a tremendous effect on mental health outcomes among undocumented immigrants, refugees, and vulnerable immigrants, including sex workers and LGBT individuals.

The majority of the studies established a clear association between immigration policies and mental health outcomes such as depression, anxiety, and post-traumatic stress disorder (PTSD) [48]. For example, a clear correlation was shown to exist between conditions in immigration detention centers and increased anxiety, depression, and overall stress [31, 49]. Screening instruments used to measure depression also found that undocumented immigrants are at highest risk of depressive symptoms and are disproportionately impacted by PTSD, anxiety, and depression when compared to other documented immigrants and citizens [49]. In particular, in localities and jurisdictions with anti-immigration policies, the prevalence of negative mental health outcomes is even higher when compared to locations and jurisdictions in the same country with neutral or welcoming policies towards immigrants, including “sanctuary cities.”

Mental health concerns including depression, anxiety, and PTSD were not only identified among adult undocumented immigrants, but also among undocumented children [49–51]. Undocumented children experience significant trauma, and studies particularly point to the development of symptoms of PTSD among this affected group [51]. In addition, undocumented children faced unique challenges including barriers to education along with anxiety over arrest, incarceration, and imprisonment of family members due to immigration status, leading to increased child trauma and harm [52]. In addition to mental health outcomes, a population-level data set from California birth records from

1992–2003 compared to 1992–2006 autism case records shows that the effects of state and federal policies toward immigrants are related to the rise and fall of autism risk over time [53]. However, it is also important to note the limited research and epidemiological data establishing the association between immigration policies and physical health outcomes such as autism, hypertension, cardiovascular disease, low birth weight, and prematurity. Further longitudinal research is needed to further establish these connections.

Not only were immigration policies identified as factors affecting the health outcome of immigrants, but also other social determinants were identified as well. These included specific environmental conditions such as pollution and contamination of water, as well as pre-and-post migration experiences ranging from rape, sexual assault, and abuse to extortion and several other specific geopolitical and economic factors [34, 48].

Gaps in the Literature

Immigration policies have led to a set of dilemmas and issues associated with the delivery of care to immigrants by providers, practitioners, and health promoters. However, little is known about the most recent immigration policies across the world and their potential impact on services and health outcomes among undocumented immigrants. Some of the most recent immigration policies use highly subjective standards for enforcement, which make it easier for immigration officers and personnel to enforce these policies, but in turn have the potential to expose immigrants to increased profiling and potential discrimination.

For instance, Section 287(g) of the Immigration and Nationality Act (INA) in the United States, added in 1996, authorizes the US Immigration and Custom Enforcement (ICE) to enter into agreements with state and local law enforcement agencies to enforce federal immigration law during their regular, daily law-enforcement activities. The original intent was to “target and remove undocumented immigrants convicted of violent crimes, human smuggling, gang/organized crime activity, sexual-related offenses, narcotics smuggling and money laundering” [54]. In its first decade, there was relatively little use of Section 287(g) authority, but over the past five years its use has accelerated at an alarming rate. Nationally, over 72 jurisdictions have implemented Section 287(g) agreements in 23 states. More than 1,240 active 287(g) officers have been trained and certified; and since 2006, federal funding to facilitate 287(g) agreements has increased dramatically every year, growing from \$5 million allocated in 2006 to more than \$68 million in 2010. The Section 287(g) program has been criticized for its unintended infringement on individual rights and civil liberties. According to reports,

local officials are using this authority more for minor or petty offenses (such as traffic violations) than for serious crimes as intended [54].

Furthermore, there is a legitimate concern that people who are potentially subject to 287(g) enforcement, whether documented or undocumented, may refrain from seeking vital services, including medical services, from any local government or private agency—even agencies unrelated to law enforcement—for fear of exposing themselves or their family members to legal sanctions or harassment. However, the extent and impact of such perceptions and behaviors is unclear. More research is needed to understand the impact of federally enforced immigration policies on health outcomes and access to health. In addition, in April 2012, Arizona legislators passed the Support Our Law Enforcement Safe Neighborhoods Act (SB 1070). SB 1070 makes it a crime to fail to possess immigration documents, and it also expands police power to detain individuals on a “reasonable suspicion” basis and detain persons “suspected” of being in the United States illegally. An assessment of the long-term impact of this law and similar state-level immigration policies for public health is urgently needed. A call for action at the national level has been made to better understand these phenomena through research and advocacy work [55].

Another telling example is found in the case of Spain. The immigrant population in Spain, whether documented or not, has been entitled to health services and care since 2000. However, under Royal Decree 16/2012, which was issued in April 2012, most undocumented immigrants are no longer eligible to receive free medical treatment. Only undocumented individuals under 18 or pregnant women could receive emergency care. In addition, Royal Decree 16/2012 might have a profound impact on HIV prevention and treatment initiatives because undocumented immigrants’ access to HIV medications and services will be negatively impacted [56, 57].

Aside from specific immigration policies, there is also much debate in the United States over the potential impact of the Patient Protection and Affordable Care Act (ACA) of 2010 on access to health services for undocumented immigrants [58]. The sweeping legislation designed to ensure that almost all Americans can obtain health insurance may reduce access to care for many undocumented immigrants by isolating them from the general, formerly uninsured, population. In addition, healthcare safety net hospitals and clinics, which are the main providers of health care and services for undocumented immigrants, might face funding and reimbursement challenges by ACA, making it impossible to continue providing services to undocumented immigrants. ACA’s exclusion and denial of participation of undocumented immigrants may lead to further marginalization of undocumented immigrants and

alienation from health services, which could result in difficulties in monitoring infectious diseases. In addition, this exclusion could impact clinics’ services and overall operations since, under the ACA, clinics will not be reimbursed for providing the broad-based screening services related to sexual health and disease prevention (e.g., STI prevention counseling for high risk adults and sexually active adolescents, herpes vaccination for all adults, syphilis screening for high risk adults and pregnant women, HPV DNA testing for 30+ women, tobacco cessation counseling) to undocumented immigrants.

Discussion

The volume of international travel and cross-border migration places pressure on states to maintain orderly migration systems. Some nation states have responded with tough immigration policies or departmental initiatives to address the issue of illegal migration. Some strategies, such as immigration detention and the use of check points to target undocumented immigrants, pose a serious threat to accessing health services as well as potentially negative mental health outcomes for this vulnerable population. Other policies have a large impact on immigrants’ health and welfare by forcing people to remain in situations where they face a greater chance of persecution, isolation, and discrimination leading to major health consequences and outcomes.

The presence of anti-immigration policies at the local level had a significant effect on access to health services among undocumented immigrants. Undocumented immigrants, including LGBT individuals at higher risk of HIV acquisition, were often barred access to vital health services, including HIV prevention and care coordination services. In addition, undocumented Latinas have been denied access to or chosen not to seek out prenatal care services because they feel that accessing these services would potentially expose them to discrimination from providers as well as put them at risk for deportation or other negative immigration consequences. Therefore, more research and policies are needed to address these concerns at the community level, particularly among groups at higher risk of HIV acquisition, including sex workers, and LGBT and transgender individuals.

Anti-immigration policies and departmental policies with anti-immigrant rhetoric are a major global determinant of health, particularly mental health. Undocumented immigrants were more likely to screen for depression, anxiety, and PTSD when compared to other documented immigrants and citizens in localities with anti-immigration policies. Our study shows that there is a growing evidence base to incorporate mental health into a global public

health agenda and collective efforts to serve undocumented immigrants. Given that mental disorders are among the leading causes of diminished human productivity and impaired social functioning, a call for action is gravely needed. In fact, mental disorders contribute as much to a lifetime of disability as do cardiovascular and respiratory diseases, surpassing all types of cancers and HIV. Therefore, healthcare professionals, stakeholders, think tanks, policymakers, and advocates must remain engaged in discussions over migration and humanitarian protection to ensure a broader consideration of immigration policies, as well as the way such policies impact the mental health outcomes of undocumented immigrants and other vulnerable populations.

It is important to mention that while some developing nations are struggling with the financial crisis, income per capita has been on the rise in China, India, and Brazil, and these quickly developing nations are experiencing a new flow of migration. This new migration flow merits attention as these countries' responses through legislative bills, laws, and policies might have a significant impact on immigrants' health. Most of the research thus far has documented the health outcomes and impact of immigrants migrating from the developing to the developed world; however, these new migration patterns merit further scholarly research and policy analysis.

Potential policy actions identified to address the complex and critical findings of this systematic review include: the presence of anti-immigration policies or laws as a perceived barrier to accessing vital health services and the negative impact of these policies on mental health outcomes including PTSD, anxiety, and depression. These policy action items have been developed based on fundamental human rights and social justice premises. Social justice requires fairness and equality in the treatment and care of people, which includes how individuals are treated in a health care setting and the accessibility and provision of health services. In addition, social justice requires the fair distribution of resources, the preservation of human dignity, and the showing of equal respect for the interests of all members of the community [59, 60]. The standard of human rights requires governments to recognize the right of everyone to the highest attainable standard of physical and mental health [60, 61].

Promoting a National and Local Culture of Access to Health for All

Relying on the findings related to immigration policies as barriers to access to health services, we have developed action items that should be taken into consideration to promote access to health for all, regardless of documentation status. Our action items have been developed

recognizing that the improvement of the health and well-being of people is the ultimate aim of social and economic development.

1. Access to health care for immigrants is a global health issue and needs to be addressed with global policies and established conceptual frameworks.
2. Access to health care for immigrants is a national issue and should be addressed with a national policy on health care for noncitizen and undocumented immigrants.
3. National immigration policy should recognize the public health risks associated with undocumented persons not receiving medical care.
 - a. Increased access to comprehensive primary care, prenatal care, and chronic disease management may make better use of the public health funding by alleviating the need for costly emergency care.
 - b. National immigration policy should encourage all residents to obtain clinically effective vaccinations and screening for prevalent infectious diseases.
4. Strengthening health care service provision by building new strategies: volunteer interpreter services and culturally and linguistically appropriate programs.
5. Countries should develop new and innovative strategies to support safety-net health care facilities, such as community health centers, qualified health centers, public health agencies, and hospitals that provide a disproportionate share of care for patients who are uninsured and from low socioeconomic status. All patients should have access to appropriate outpatient care, inpatient care, and emergency services.

Eliminating Discrimination in Health Care Settings

Anti-immigrant rhetoric impacted the health profession and providers' attitudes towards immigrants and disenfranchised groups becoming another critical barrier to access to care.

1. Health care providers have an ethical and professional obligation to care for the sick. Immigration policies and laws should not interfere with the ethical obligation to provide care for all.
2. Health care providers should encourage and promote cultural diversity and linguistic competency training and education for health professionals, which should include awareness, respect, evidence-based research, and capacity-building components.
3. Health care providers should encourage and promote programs in continuing education at the local and national levels that assist health professionals in their

efforts to better serve the needs of underserved populations.

4. Health care providers should build referral systems with other organizations in the community to provide better information to immigrants, in particular about life in the United States, their legal right, becoming a citizens, and educational opportunities.

Global Call for Action

Major global actors as well as local think tanks and advocacy organizations including the World Health Organization, the Bill and Melinda Gates Foundation, and the Law and Health Initiative in New York City, to mention a few, have a duty to advocate for policy change and provide evidence-based data to government agencies about the detrimental effects of anti-immigration policies on the health of undocumented immigrants. Global health actors, in particular, also have an obligation to serve those in the greatest need, including undocumented sex workers and undocumented LGBT individuals who are not only the target of anti-immigration policies but also many times the targets of additional criminal laws and statutes. The findings of this review corroborate the urgent need for a global call for action:

1. Global actors should push for countries to control the admission of people within its borders and to enact and implement laws designed to reduce unlawful entry, while also collaborating with border countries for effective, bilateral solutions.
2. Non-governmental organizations, hospitals, and clinics have an ethical and legal obligation under human rights laws to treat undocumented immigrants in emergency situations.
3. Society has a vested public health interest in ensuring that all residents have access to health care, particularly for communicable diseases.
4. Based on the need in almost every community for mental health services that are both affordable and culturally relevant, global health actors should promote health care systems that incorporate mental health services and integration of services.

Conclusion

In 2010, the International Organization for Migration (IOM) estimated that 25.5–32.1 million people—which represents 10–15 % of the world's total 214 million international immigrants—were undocumented immigrants, though the IOM notes that it is difficult to make accurate

estimates (<http://www.iom.int/cms/home>). Such immigrants arrive in receiving nations bearing a disproportionate burden of undiagnosed illnesses—including communicable diseases such as tuberculosis and HIV—and frequently lack basic preventive care and immunizations. The adverse circumstances under which some undocumented immigrants enter the country, and the substandard conditions in which many live following their arrival, only exacerbate poor health. These health burdens are sustained and magnified by anti-immigrant rhetoric along with immigration policies and laws that increase fear of detection, language barriers, and lack of knowledge about the health care system, all of which limit undocumented immigrants' ability to effectively access health services and impact health outcomes, including mental health. Undocumented immigrants are also frequently limited in their ability to access care by a lack of both health insurance and sufficient financial resources to pay for such services.

A different approach is needed worldwide to respond to the issue of undocumented migration and unauthorized cross-border flows. Healthcare professionals, politicians, stakeholders, think tanks, advocacy groups, and others should come together and respond with policy solutions based on social justice and human rights premises. In addition, healthcare professionals and providers should develop strategies to eliminate discrimination in health care settings by developing and implementing more inclusive policies. While many of these immigration policies might interfere with the provider's right to provide services to certain groups, health providers should respond to the humanitarian call embedded in the profession that entails the provision of health care for all.

While anti-immigrant rhetoric continues to spread globally, including in the United States where some states have passed bills to keep undocumented students from qualifying for higher education opportunities (effectively charging them out-of-state or even international tuition), not all immigration-related laws at the state and national levels are restrictive. For instance, in the United States, fourteen states have passed statewide versions of the proposed federal DREAM Act. This state-level legislation allows undocumented students to qualify for in-state college tuition and other financial aid. Some major cities in the United States, including San Francisco and Denver, have introduced policies to make them “sanctuary cities” with an inclusive agenda welcoming all immigrants. Sweden is well-known for welcoming Muslim refugees fleeing war-torn nations like Iraq, Syria, and Somalia. In 2012, the number of asylum seekers arriving in Sweden jumped nearly 50 % from the year before—hitting 43,900, the second highest year on record. Equality legislation, bodies and duties have become easier to use and enforce. For instance, the 2009 Anti-Discrimination Act replaced 7 laws with one and 4 equality

bodies with one Equality Ombudsman. This single approach aims to work more effectively and comprehensively on all grounds. In court, more NGOs can support victims and judges can award higher damages, both to compensate and to deter. Furthermore, the Netherlands has anti-discrimination definitions that protect all residents of many groups. The Dutch Equal Treatment Commission is an independent quasi-judicial body established in 1994 to hear and investigate claims of discrimination. These immigration policies serve as examples of approaches to immigration that effectively embrace social justice and human rights premises and should be considered by other nations when addressing the issue of undocumented migration.

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March 29, 2021

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Acting Associate Director
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111 Massachusetts Avenue NW
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Re: Adjudication and Processing of Deferred Action for Childhood Arrival Applications

Dear Ms. Nolan and Mr. Shahoulian,

On behalf of a group of DACA Recipients and Practitioners, we write this letter providing recommendations to assist in the fair and timely processing of DACA requests. We understand that due to several factors, the processing of DACA requests has slowed down. However, there is an ongoing need for information and guidance from USCIS that can improve how requests are being handled. As a group, we have noticed gaps in the way requests are being processed and adjudicated.

We ask that USCIS provide more detailed guidance and increase its services for DACA requestors. Below is a list of recommendations we would like USCIS to implement as a way of improving the service being offered to DACA requestors.

Guidance:

- We urge USCIS to ease the burden of documentation required for all DACA applicants (see below).
- USCIS should make available information on how it is training and retraining its staff to prevent inconsistencies in how the DACA policy is being applied to requests and ensure that all adjudications are given the same standard. Additionally, USCIS should consider sharing the

material that is being used to train officers with practitioners so that requestors and practitioners can get a better understanding of the standards and requirements when preparing filings.

Service:

- USCIS should improve the way requestors and practitioners get information on current filings by making it easier for individuals to get transferred directly from frontline officers, who do not have information beyond what is posted on the USCIS website, to officers on customer service lines.
- USCIS should expand which forms requestors and practitioners are able to file through online systems to allow for the online filing of additional forms of relief.
- USCIS should improve the process for adding cases/clients to myUSCIS or egov to track case status.
- USCIS should improve the speed with which they update A-files and case statuses to reflect the filings that have been made and the status of the case. For example, we have noticed a lag in time when updating current G-28s from representatives, which prevents them from accessing current client information and case statuses.
- USCIS should send receipt notices immediately after it receives applications. Currently, receipt notices take 8-9 weeks to arrive. It is important that USCIS acknowledge in a more timely manner when it receives an application, to both the practitioner and requestor.
- USCIS should create a clear and functional process for practitioners to update their contact information and submit a new G-28 in the case of changed representation.
- We ask that USCIS expand the implementation of the Emergency Stopgap USCIS Stabilization Act passed by Congress in October 2020 to additional form types, in order to ensure that the agency remains solvent while efficiently and effectively adjudicating all immigration benefit applications and petitions. As part of this expansion, USCIS should consider making premium processing funds available for the timely adjudication of DACA requests through the I-765 form, although this should not adversely impact those DACA requestors and other applicants applying for employment authorization who do not have the financial means to premium process their requests.

DACA Policy:

- USCIS should allow for the “consecutive grants” of DACA. USCIS should issue new validity dates for DACA recipients that correspond with the expiration date of their current DACA validity period, instead of starting the new validity period on the date it grants the DACA renewal. This will prevent gaps in DACA grants for those who timely file their renewal and the ability to benefit from the full two years of the DACA grant.
- USCIS should be flexible on the volume of documentation that is needed from applicants when they request DACA for the first time, while preserving a broad range of documents that are acceptable. As the DACA policy has existed since 2012, applicants are having to document 14 years of continuous residence. Gathering such evidence has been difficult and made even more challenging during this pandemic. Additionally, several places, like schools and health care clinics from which applicants are requesting records, do not keep records for more than 10 years.
- USCIS should eliminate the bar that prevents detained individuals from applying for DACA without ICE permission. While non detained individuals can apply for DACA directly with USCIS, detained individuals must rely on ICE to pursue this benefit. The current FAQ document

currently requires detained individuals to identify themselves to ICE and cannot request DACA directly with USCIS.

We thank you for your consideration of this matter and request communication of your availability to meet with the undersigned organizations to discuss these recommendations. If you require any additional information or clarification, please feel free to contact Juliana Macedo do Nascimento, State and Local Policy Manager at United We Dream, juliana@unitedwedream.org.

Sincerely,

Adhikaar
Alianza Americas
Alianza Nacional de Campesinas
America's Voice
American Immigration Lawyers Association
Arkansas United
Asian American Legal Defense and Education Fund
Bend the Arc Jewish Action
CASA
Catholic Legal Immigration Network, Inc.
Church World Service
Cleveland Jobs with Justice
Coalition For Human Immigrant Rights
Coalition for Humane Immigrant Rights (CHIRLA)
Haitian Bridge Alliance
Illinois Coalition for Immigrant and Refugee Rights
Immigrant Legal Resource Center
Indivisible Ventura
Intercommunity Justice and Peace Center
Interfaith Council for Peace & Justice
Just Neighbors
La Union del Pueblo Entero (LUPE)
Leadership Conference of Women Religious
Legal Allies
Make the Road New York
Motivation Motivates
National Immigration Law Center
National Immigration Project (NIPNLG)
National Network for Immigrant & Refugee Rights
National Partnership for New Americans
New American Leaders Action Fund
San Bernardino Community Service Center
Save the Children Action Network
Service Employees International Union (SEIU)

Services, Immigrant Rights & Education Network (SIREN)
Southwestern Law School Community Lawyering Clinic
Tennessee Immigrant & Refugee Rights Coalition
UndocuBlack Network
UnidosUS
United We Dream Network
University of California Immigrant Legal Services Center
Virginia Coalition for Immigrant Rights
Voto Latino



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journal homepage: www.elsevier.com/locate/jeboImmigration policy and immigrants' sleep. Evidence from DACA[☆]Osea Giuntella^a, Jakub Lonsky^b, Fabrizio Mazzonna^{c,d,*}, Luca Stella^e^a University of Pittsburgh and IZA, United States^b University of Liverpool, United Kingdom^c Università della Svizzera Italiana and IZA, Switzerland^d Institute of Economics (IdEP), Università della Svizzera Italiana (USI), via Buffi 13, Lugano, Switzerland^e Università Cattolica and IZA, Italy

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ABSTRACT

Stress is associated with sleep problems and poor sleep is linked to mental health and depression symptoms. The stress associated with immigrant status and immigration policy can directly affect mental health. While previous studies have documented the significant relationship between immigration policy and the physical and mental health of immigrants, we know little about the effects of immigration policy on immigrants' sleep patterns. Exploiting the approval of the Deferred Action for Childhood Arrivals (DACA) program in 2012, we study how immigrants' sleep behavior responds to a change in immigration policy. Consistent with the findings of previous research documenting the positive effects of DACA on mental health, we find evidence of a significant improvement in immigrants' sleep in response to this policy change. However, the estimated effects of the policy disappear rapidly after 2016. While temporary authorization programs such as DACA may have beneficial impacts on immigrants' sleep in the short term, the effects of such temporary programs can be rapidly undermined by uncertainty about their future. Thus, permanent legalization programs may be more effective at achieving long-term effects, thereby eliminating uncertainty around the legal status of undocumented immigrants.

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1. Introduction

The debate on unauthorized immigrants, deportation, and legal status has hardly been as lively as in recent years. Estimates suggest that there are 11 million undocumented immigrants in the United States. Immigrants' legal status has been linked to socioeconomic disparities and inequality (Menjívar, 2006). Undocumented immigrants report high levels of stress as well as psychological and physical loss (Garcini et al., 2019). The threat of deportation as well as the lack of work authorization, access to credit, and access to welfare programs affect the daily lives of undocumented immigrants across the

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United States. Further, unauthorized immigrants are at risk of poor health, particularly of reporting symptoms of depression, anxiety disorders, and other mental health problems (Passel et al., 2016). Despite the paucity of studies analyzing the effects of immigration policy on health, recent work suggests that the stress associated with immigrant status and immigration policy can have direct impacts on mental well-being (Kaushal et al., 2018; Wang and Kaushal, 2019; Venkataramani et al., 2017; Giuntella and Lonsky, 2020; Hainmueller et al., 2017). Yet, we know relatively little about the mechanisms through which policy may affect immigrant health.

In this study, we examine the role of sleep deprivation, one of the first consequences of stress. If stress is an important determinant of sleep deprivation, and sleep deprivation has detrimental effects on health, this may be one of the channels through which immigration policy affects mental health.¹ Given the evidence of significant racial and ethnic disparities in short sleep duration (Hale and Do, 2007; Jackson et al., 2013) and the close links among stress, mental health, and sleep disorders, we examine the effects of immigration reform on immigrants' sleep behavior. While previous studies have documented a significant relationship between immigrant status and the mental health of immigrants, we know little about the possible impacts of an immigration policy change on immigrants' sleep patterns.

Insufficient sleep has been associated with detrimental effects on health outcomes (Cappuccio et al., 2010), including a higher risk of weight gain and obesity, type 2 diabetes, cardiovascular diseases, and premature mortality (Giuntella and Mazzonna, 2019). There is evidence of significant disparities in sleep duration across ethnic groups. The stress associated with supporting family members in their country of origin, racial discrimination (Bhattacharya and Schoppelrey, 2004), and concerns about legal status represent important stress factors that could help explain disparities in sleep duration (Liang and Fassinger, 2008; Slopen and Williams, 2014).

To the best of our knowledge, no work has thus far analyzed the effects of immigrant legalization on immigrants' sleep patterns. Sleep may be one of the primary channels through which stress related to immigration policy changes affects health. We focus on the effects of the Deferred Action for Childhood Arrivals (DACA) program. DACA is an executive memorandum issued by President Obama on June 15, 2012. This large-scale immigration policy change provides temporary work authorization and deferral from deportation for undocumented, high school-educated young people. However, DACA status is only a temporary authorization, and although it enables undocumented young people to remain in the United States legally, it does not provide them with a path to citizenship or permanent residency. The status can be renewed every two years conditional on still meeting the eligibility criteria.

Exploiting the introduction of DACA, we study how immigrants' sleep behavior responds to a change in immigrant status. Consistent with the findings of previous research documenting the positive effects of DACA on mental health, we find evidence that this policy significantly improves the duration and quality of immigrants' sleep but only in the short run. To estimate the effects of DACA, we employ a difference-in-differences strategy, which relies on discontinuities in the DACA eligibility criteria. We find that DACA-eligible individuals are 10.2 percentage points less likely to sleep less than seven hours and 13.8 percentage points less likely to sleep less than eight hours. The effects are concentrated among men, who are also significantly more likely to report satisfaction with their sleep. Interestingly, we also find that DACA-eligible immigrants—after the introduction of the reform—are less likely to report episodes of sleeplessness. Specifically, DACA-eligible immigrants are 2 percentage points less likely to report sleeplessness. Reassuringly, the estimated effects are driven by states with a large number of DACA applications. Furthermore, they are larger in states with a high number of deportations and become non-significant in states with a relatively low number of deportations. In 2016, the uncertainty around DACA increased and the program was eventually terminated by President Trump in 2017. Unsurprisingly, we show that the beneficial effects of DACA on sleep behavior tend to dissipate from 2016. This finding is consistent with the idea that the uncertainty around this temporary program may have undermined its positive impact on health and well-being, and, in turn, on sleep (Mallet and Garcia Bedolla, 2019).

Our study adds to the literature analyzing the effects of immigration policies on the mental health of immigrants. Using data from the National Health Interview Survey and California Health Interview Survey, Venkataramani et al. (2017) and Giuntella and Lonsky (2020) demonstrate that economic opportunities and protection from deportation can have large positive effects on the mental health of undocumented immigrants. Their findings confirm the associations obtained by Patler and Pirtle (2017). Moreover, Hainmueller et al. (2017), using Medicaid claims data from Oregon, show that children of DACA-eligible mothers had 50% fewer diagnoses of adjustment and anxiety disorders relative to children of ineligible mothers. However, to the best of our knowledge, this is the first study to examine the effects of DACA on immigrants' sleep patterns. Our findings are also in line with recent evidence on the health and mental health consequences of local immigration enforcement (Wang and Kaushal, 2019).

The remainder of this paper is organized as follows. Section 2 discusses the background and data. In Section 3, we present the identification strategy. We discuss the results in Section 4. Section 5 concludes.

¹ Stress causes hyperarousal, which in turn can upset the balance between sleep and wakefulness and induce short sleep duration and other sleep problems (Hall et al., 2000).

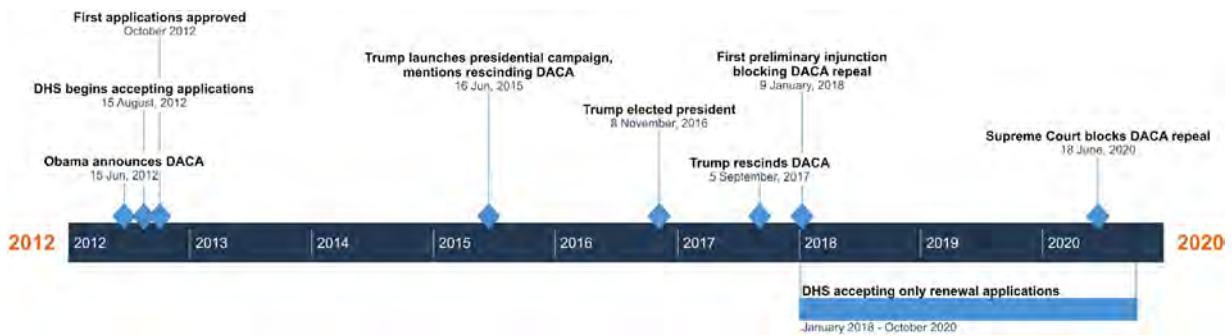


Fig. 1. Timeline.

2. Background and data

2.1. DACA program

DACA, announced by President Obama on June 15, 2012, was the largest immigration reform since the passage of the Immigration Reform and Control Act by the US Congress in 1986. Approximately 1.7 million unauthorized immigrants (Passel and Lopez, 2012) are targeted by this policy, which provides eligible applicants with a two-year renewable status that shields them from deportation and enables them to stay and work in the United States legally. However, the program does not provide a path to citizenship or permanent residency. The US Department of Homeland Security's Citizenship and Immigration Services started accepting applications for DACA status on August 15, 2012. The first applications were approved in October 2012. Fig. 1 provides a timeline of the institutional setting.

The eligibility criteria for the program are defined as follows: (1) no lawful status as of June 15, 2012; (2) under the age of 31 as of June 15, 2012; (3) entered the United States before reaching their 16th birthday; (4) continuously residing in the United States since June 15, 2007; (5) physically present in the United States on June 15, 2012 and at the time of applying for DACA; (6) currently in school, with a high school diploma (or GED), or an honorably discharged veteran of the Coast Guard or Armed Forces of the United States; and (7) not convicted of a felony, significant misdemeanor, or three or more other misdemeanors. In addition, DACA applicants have to be at least 15 years, they are required to pay a processing fee of 495 dollars, and they have to provide evidence that they were living in the United States at the prescribed times, proof of education, and confirmation of their identity.² They also have to pass a background check, fingerprinting, and other checks that consider their biological identifying features. Applicants do not need legal representation. Officials can revoke DACA protection if individuals pose a threat to public safety or national security. For instance, about 1500 people have had their deferral canceled because of a crime or gang-related activity or an admission of such activities. This amount represents fewer than 0.2% of the people accepted into the program (source: Immigration and Customs Enforcement).

As of August 2018, approximately 823,000 individuals had been granted DACA status. Of these, roughly 699,000 individuals were actively enrolled in the program on August 31, 2018, whereas about 40,000 had adjusted to lawful permanent resident status and the rest either had not renewed their status or had had their renewal request denied. Overall, there have been 1,264,000 renewal cases, with only 13,400 of renewal requests (1%) denied. Most current DACA recipients come from Latin America. In particular, Mexico is the major source country (558,100), followed by El Salvador (26,500) and Guatemala (18,100). Approximately, 75% of DACA recipients live in 20 US metropolitan areas. Los Angeles-Long Beach-Anaheim has the largest concentration of DACA enrollees (88,400 DACA recipients) followed by New York-Newark-Jersey City (46,500) and Dallas-Fort Worth-Arlington (37,800). One-third of DACA recipients live in California (29%), while 16% of enrollees reside in Texas. Approximately, 63% of current status-holders are 25 or younger, 53% are women, and 80% are single (USCIS and PEW Research Center). The main benefits of DACA for unauthorized immigrants are being reprieved from deportation and obtaining a work permit. DACA recipients receive a social security number, which enables them to open a bank account, build a credit history, and access Earned Income Tax Credit. Furthermore, most states (the only exceptions being Arizona and Nebraska) allow DACA recipients to obtain a driver's license. At the same time, DACA does not provide access to federal welfare programs, federal student aid, or any provisions of the 2010 Patient Protection and Affordable Care Act.

Ahead of the 2016 presidential election, the uncertainty around the future of the program increased significantly. DACA was challenged several times in court and encountered firm opposition from many members of the Republican Party. Furthermore, at the beginning of the 2016 primary election campaign, (the future) President Trump remarked his intention to end the program. During a campaign rally in Arizona in August 2016, Trump reaffirmed his intention to rescind DACA if

² Documents showing that individuals arrived in the United States before their 16th birthday include a passport with an admission stamp, Form I-94, and school records from US schools attended. USCIS provides a complete list of accepted documents for each of the eligibility criteria: <https://www.uscis.gov/archive/consideration-deferred-action-childhood-arrivals-daca>.

elected president.³ Immigration quickly became one of the leading topics of the campaigns, with several candidates casting doubt on the future of DACA.

The DACA program was initially rescinded by President Trump's administration in September 2017, although this repeal was later blocked by three preliminary injunctions issued by federal district court judges in California, New York, and D.C. On May 1, 2018, Texas and six other states filed a lawsuit in the US District Court for the Southern District of Texas challenging the 2012 program itself. The plaintiffs asked for a preliminary injunction that would stop USCIS from accepting DACA renewal requests while the lawsuit was pending. However, this request was denied by the judge on August 8, 2018. Finally, on June 18, 2020, the Supreme Court announced its decision to block the DACA repeal, arguing that the administration failed to provide adequate justification for ending the program. Thus, the US Department of Homeland Security now only accepts requests for the renewal of the existing status but no new applications (source: National Immigration Law Center).

2.2. Previous literature

We contribute to the recent literature exploring the impact of legalization programs on human capital, labor market outcomes, and health. Previous studies show that illegal immigrants tend to earn substantially lower hourly wage rates and family income than their legal immigrant or native-born counterparts (Rivera-Batiz, 1999; Borjas, 2017). Further, legalization programs can have positive impacts on labor market integration, leading to higher labor force participation and lower likelihood of unemployment among legalized immigrants (Kossoudji and Cobb-Clark, 2002; Devillanova et al., 2018). In addition, legalization leads to a significant increase in immigrants' wages (Rivera-Batiz, 1999), thereby contributing to the growth in private sector GDP (Edwards and Ortega, 2017). On the contrary, previous studies have found that programs requiring employers to check workers' eligibility to work legally in the United States have reduced average hourly earnings among likely unauthorized Mexican immigrants (Orrenius and Zavodny, 2015).

Our study closely relates to the growing number of studies analyzing the impact of immigration policy on health and, more specifically, to studies investigating the effects of DACA on labor market outcomes, human capital, and health. DACA has been shown to improve the labor market opportunities of undocumented immigrants (Pope, 2016), reduce the likelihood of life in poverty (Amuedo-Dorantes and Antman, 2016), and increase GDP (Ortega et al., 2019). There is, instead, mixed evidence on the effects of DACA on human capital. While DACA may have incentivized work over educational investment (Amuedo-Dorantes and Antman, 2017; Hsin and Ortega, 2018), Kuka et al. (2020), using administrative data from California, find evidence that DACA increases high school graduation rates and college attendance. There is also growing evidence of the effects of DACA on health. Using data from the National Health Interview Survey, Venkataramani et al. (2017), Patler and Pirtle (2017), and Giuntella and Lonsky (2020) show that economic opportunities and protection from deportation can have large positive effects on the mental health of undocumented immigrants. Hainmueller et al. (2017) use Medicaid claims data from Oregon to document that children of DACA-eligible mothers have 50% fewer diagnoses of adjustment and anxiety disorders than children of ineligible mothers. More recently, Patler et al. (2019) show that the DACA health benefit in California appears to worsen in 2016 and 2017, a result consistent with our finding on sleep at the national level using a longer observation window. Finally, Wang and Kaushal (2019) report the significant effects of local immigration enforcement policy on immigrants' health.

Second, we relate to the growing number of studies analyzing the determinants and consequences of sleep deprivation using quasi-natural experiments and time-use data. In particular, there is increasing evidence of the causal effects of sleep deprivation on chronic diseases, health, cognitive skills, decision making, human capital, and productivity (Luyster et al., 2012; Giuntella and Mazzonna, 2019; Giuntella et al., 2017; Jin and Ziebarth, 2020; McKenna et al., 2007; Hafner et al., 2017; Heissel and Norris, 2018; Gibson and Shrader, 2018).

Finally, we contribute to the literature analyzing disparities in sleep (Guglielmo et al., 2018; Jackson et al., 2013; Williams et al., 2015). Prior studies have shown marked differences in sleep duration by race and ethnicity (Lauderdale et al., 2006; Hale and Do, 2007; Jackson et al., 2013). A handful analyze acculturation and sleep using small cross-sectional studies and comparing first-generation immigrants with later-generation immigrant descendants. For example, Hale and Rivero-Fuentes (2011), using data from the National Health Interview Survey, suggest that United States-born Mexican Americans are more likely to be short sleepers than Mexican immigrants. Similarly, Hale et al. (2014) employ data from the Study of Women's Health Across the Nation and find that United States-born Hispanics as well as Chinese and Japanese immigrant descendants are more likely to report sleep complaints than their first-generation ethnic counterparts. However, while previous studies have investigated how immigration policy may affect immigrants' health, we know little about the effects of immigration reforms on sleep.

2.3. Data

Our data are drawn from the American Time Use Survey (ATUS), a nationally representative, repeated cross-sectional survey of the time use of Americans conducted since 2003 (Bureau of Labor Statistics, 2018). The monthly Current Population Survey provides the sampling frame for this survey; households that complete the eighth and final interview become eligible

³ Trump's key announcements about the DACA program are summarized in <https://time.com/4941733/trump-daca-deal-enshrine/>.

Table 1
Descriptive statistics.

	Full sample		Foreign-born sample		Hispanic sample	
	Mean	Std. dev.	Mean	Std. dev.	Mean	Std. dev.
Hours of sleep	9.16	2.31	9.41	2.35	9.53	2.42
Sleep less than 7	0.15	0.35	0.13	0.34	0.13	0.34
Sleep less than 8	0.29	0.45	0.26	0.44	0.25	0.43
Sleep satisfaction	0.35	0.48	0.41	0.49	0.47	0.50
Episodes of sleeplessness	0.05	0.21	0.03	0.16	0.02	0.15
Female	0.57	0.50	0.56	0.50	0.55	0.50
Age	28.47	4.70	29.25	4.45	28.56	4.61
Married	0.44	0.50	0.56	0.50	0.54	0.50
High school degree	0.26	0.44	0.29	0.45	0.49	0.50
Some college	0.36	0.48	0.27	0.45	0.30	0.46
College degree	0.38	0.49	0.44	0.50	0.21	0.41
Black	0.13	0.34	0.13	0.33	0.04	0.19
Hispanic	0.17	0.37	0.42	0.49	1.00	0.00
White	0.78	0.41	0.57	0.50	0.92	0.28
DACA-eligible immigrants	0.02	0.12	0.10	0.30	0.18	0.38
Immigrants	0.14	0.35	1		1	
Age at arrival	17.56	9.29	17.63	9.23	15.90	8.74
Observations	25,720		3728		1553	

Data are drawn from the ATUS for individuals aged 18–35 with at least a high school degree (survey years: 2009–2019). All the samples contain individuals for whom information on all observables and the respective outcome variable are not missing. The sample size for sleep satisfaction reduces to 7335 observations for the full sample, 997 observations for the foreign-born sample, and 423 observations for the Hispanic sample.

for selection into the ATUS sample. Specifically, respondents aged 15 years and above are asked to complete a detailed diary of their previous day, with 50% of the sample reporting about weekdays and 50% reporting about Saturday and Sunday. This diary provides information on all performed activities recorded during the entire 24 hours. In addition, respondents are requested to answer questions about their sociodemographic characteristics.

In our analysis, we focus on the period between 2009 and 2019.⁴ Following Pope (2016) and in accordance with the eligibility criteria (see also Section 2.1), we restrict attention to individuals between 18 and 35 years with at least a high school degree at the time of the survey. Furthermore, we drop individuals reporting more than 16 or less than 2 hours of sleep and consider only night sleeping by excluding naps (i.e., sleep that starts and finishes between 7 am and 7 pm).⁵ After these restrictions, our final estimation sample comprises 25,720 observations. While only non-citizens are defined as DACA-eligible, the control group in our baseline specifications includes citizens and natives (see also Pope, 2016). Following the previous literature on the economic and health effects of DACA (Pope, 2016; Venkataramani et al., 2017), we test the sensitivity of our results by restricting the sample to foreign-born adults or foreign-born adults who reported Hispanic ethnicity (i.e., roughly 90% of DACA beneficiaries). As we narrow the sample selection criteria and include only foreign-born Hispanics in the control group, we increase the comparability between the treatment and control groups, but the sample size decreases substantially.

Table 1 displays the descriptive statistics for these three samples. Specifically, we report the mean and standard deviation for the main sample (all individuals aged 18–35 with at least a high school degree), foreign-born respondents, and foreign-born Hispanics. Individuals report sleeping on average about nine hours per day and immigrants tend to sleep more than natives (compare the main sample with the foreign-born and Hispanic samples). Further, self-reported sleep tends to overestimate objective measures of sleep duration (Lauderdale et al., 2008). Moreover, Basner et al. (2007) note that the values for sleep time may overestimate actual sleep because the ATUS Activity Lexicon includes transition states (e.g., falling asleep). We also use non-linear measures of sleep such as sleeping less than seven or eight hours, which have often been used in the medical literature analyzing sleep deprivation (Cappuccio et al., 2010), as well as other subjective measures related to sleep quality such as reporting being well rested and episodes of sleeplessness.

Regarding the other individual characteristics, the proportion of people whose highest educational qualification is a college degree is lower in the Hispanic subsample and foreign-born individuals are typically more likely to be married. Finally, in the main sample, approximately 2% of respondents are eligible for the DACA program (roughly 60 individuals per year). The proportion is markedly larger when we focus on Hispanics (18%). Overall, this table illustrates the trade-off between comparability and power as we move toward the group mostly affected by the immigration policy. Table A.1 in the Appendix reports the estimates of a balancing test obtained by regressing each of our outcomes and covariates (not used to determine eligibility status) on the DACA-eligible dummy, focusing on the period before the introduction of DACA in 2012.

⁴ Although ATUS data are available since 2003, we use data from 2009 to avoid the confounding effect of the Great Recession. Moreover, given the eligibility criteria of being under 31 in 2012, we avoid having a pre-policy group systematically younger than the post-policy group.

⁵ The results are not sensitive to these restrictions.

Reassuringly, most of the coefficients are low and not significantly different from zero. However, we do find a higher share of married individuals among DACA-eligible individuals.

3. Identification strategy

To identify the effect of DACA, we adopt the difference-in-differences approach proposed by Pope (2016) and Amuedo-Dorantes and Antman (2016). Specifically, we exploit discontinuities in the eligibility criteria of the DACA program and compare DACA-eligible (treatment group) with DACA-ineligible individuals (control group) before and after the implementation of the program. As mentioned in Section 2.1, DACA-eligible individuals are defined as those who (1) were under 31 as of June 15, 2012; (2) have lived in the United States since June 15, 2007; (3) entered the United States before reaching their 16th birthday; (4) have at least a high school degree (or equivalent); (5) are not US citizens; and (6) are unauthorized immigrants. Since the survey asked respondents about their age, year of migration, education, and citizenship status, we can identify individuals who meet the first five qualification criteria. However, as is typical in publicly available US databases, we cannot determine the immigrant's legal status. Previous estimates using survey data suggest that among self-reported non-citizens, approximately 60% are expected to be undocumented (Baker and Rytina, 2014; Pope, 2016).

Specifically, we estimate different versions of the following equation for individual i residing in state s in the year of interview t :

$$Y_{ist} = \alpha + \beta_1 \text{Eligible}_{ist} + \beta_2 \text{Post}_t * \text{Eligible}_{ist} + \gamma X_{ist} + I_t + \eta_s + \epsilon_{ist} \quad (1)$$

where Y_{ist} represents a set of sleep outcomes, defined as follows: 1) sleep hours; 2) an indicator variable for whether the individual sleeps less than seven hours; 3) a binary variable for whether the individual sleeps less than eight hours; 4) a measure of sleep satisfaction proxied by a dummy equal to one if the individual reported to have rested very well the previous day; and 5) episodes of sleeplessness. Eligible_{ist} is a dummy equal to one if individual i is DACA-eligible when the survey is administered. To capture the effect of the policy, Eligible_{ist} is interacted with Post_t , a binary variable taking one for all the years after DACA was implemented in the United States (i.e., 2013 or later).⁶ Model (1) also contains a full set of state fixed effects (η_s), which aim to capture unobservable time-invariant differences across states that may affect our outcomes. I_t collects a set of fixed effects for the interview characteristics (i.e., survey year, month, and day fixed effects), which account for possible trends in sleep behavior. X_{ist} is a vector of the control variables including sex, age dummies, indicators for marital status, education, dummies for race (i.e., whites, Hispanics, and blacks), and age at arrival fixed effects (the omitted category is given by comparable natives). Finally, ϵ_{ist} represents an idiosyncratic error term.

While the coefficient β_1 measures the average difference in sleep behavior between the treatment and control groups, the key parameter is β_2 , which indicates the change in the sleep behavior of treated individuals after the reform relative to the control group. Therefore, β_2 measures the effect of the policy on DACA-eligible individuals.⁷ As already mentioned, since nearly 40% of the non-citizens in the data are estimated to be authorized immigrants, our estimated effect of the policy (β_2) will be smaller than the intent-to-treat effect of DACA. Furthermore, not all DACA-eligible individuals applied and received DACA status. The Migration Policy Institute estimates that there were 1,326,000 DACA-eligible individuals in 2017. However, as of January 2018, only 682,750 individuals obtained DACA status.⁸ Based on these estimates, the program participation rate is 52%, suggesting that the treatment on the treated effects could be twice as large as the intent-to-treat effects.

Differently from the previous literature on the effect of DACA, we also evaluate whether the increasing uncertainty about the future of the program (from as early as 2016) affected the sleep behavior of eligible individuals. For this reason, we present our results for the impact of the program separated for two periods (2013–2015 and 2016–2019). In other words, the Post variable in equation (1) is split into two subperiods.

We also replicate our main analysis using an event study design (or multi-period difference-in-differences) in which we interact the eligible dummy (Eligible_{ist}) with the year fixed effects using 2012 as the reference period to test for pre-trends and visually inspect the estimated effect over time. In particular, this allows us to verify whether the impact of the policy clearly dissipates after 2015 (or is just the result of an outlier in a specific year).

Since the question about sleep satisfaction is asked only up to 2013, we cannot identify for this outcome the effect of the policy in the second period. We estimate our model using ordinary least squares (OLS) and standard errors are clustered at the state level. All our analyses use the ATUS respondent weights (WT06). These weights aim to recover nationally representative estimates, taking into account the over- and under-representation of a demographic group due to sampling differentials.⁹ One concern is that DACA may have altered the survey response behavior among the eligible population, potentially biasing the estimates. Pope (2016) suggests this is not the case when examining data from the American Community Survey. Consistent with his findings, we detect no evidence of a change in the share of DACA-eligible respondents throughout our sample period (p -value=0.28), thereby suggesting that response behavior was not altered by the policy.

⁶ Most applications were approved in 2013. However, in our alternative specifications (see Tables and in the Appendix), we use the year of announcement (2012).

⁷ The Post dummy is excluded from the model because we include year fixed effects.

⁸ See <https://www.migrationpolicy.org/programs/data-hub/deferred-action-childhood-arrivals-daca-profiles>.

⁹ More information is provided at <https://www.bls.gov/tus/atusersguide.pdf>.

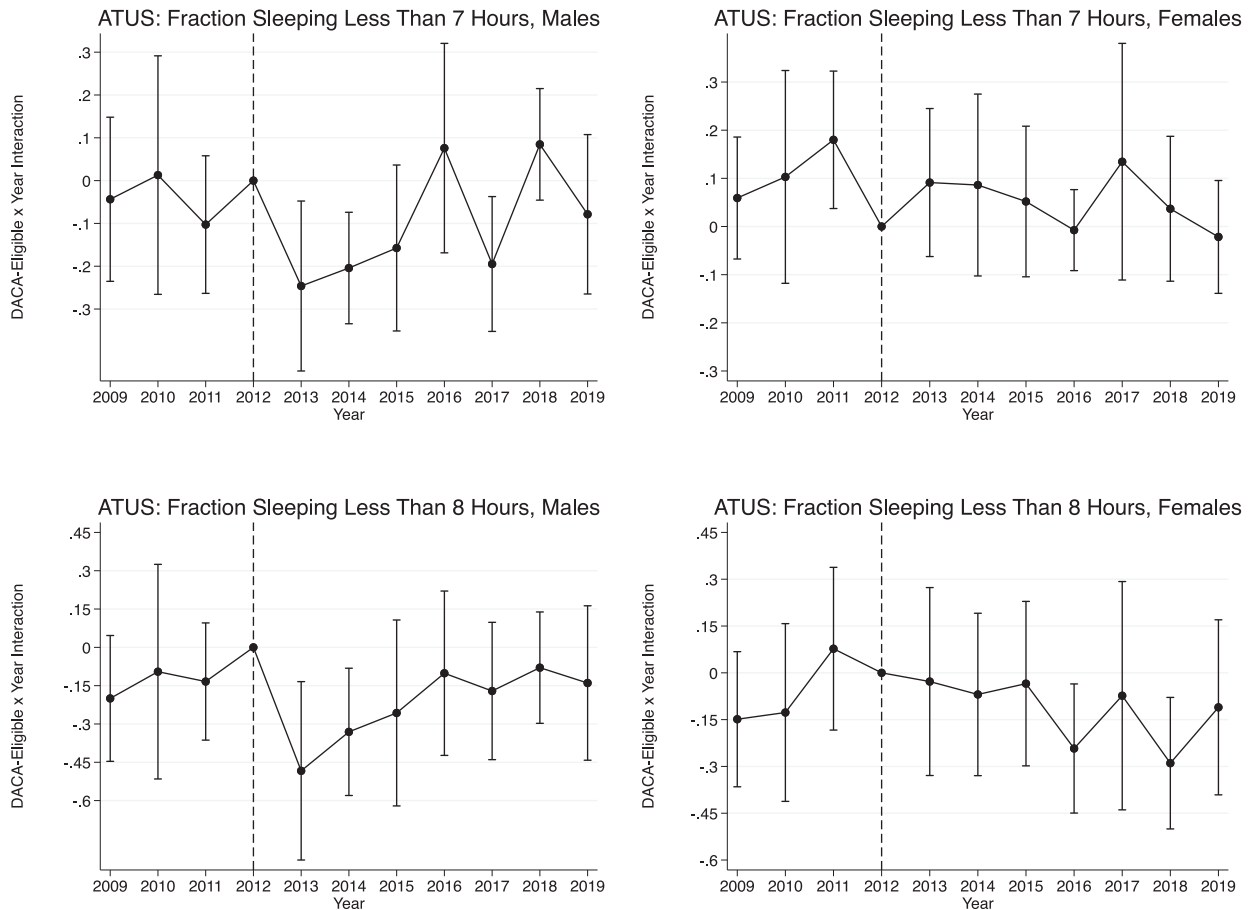


Fig. 2. DACA Eligibility and insufficient sleep, by sex. Data are drawn from the ATUS (survey years: 2009–2019). The sample is restricted to individuals aged 18–35 with at least a high school degree. The figure shows the point estimates and 95% confidence intervals of the interaction terms between the treatment group and year dummies taking 2012 as the reference and using the model reported in Eq. (1).

4. Results

Before presenting the results, we visualize the effect of the policy by comparing DACA-eligible individuals with DACA ineligible ones before and after the policy implementation using the event study design previously described. Fig. 2 reports this comparison by sex to highlight the large differences, while we present the pooled evidence and non-parametric unconditional figures in the Appendix (see Fig. A.1 and Fig. A.2, respectively). Specifically, Fig. 2 reports the parametric differences between the two groups in the share of individuals reporting less than seven (top panels) and less than eight hours of sleep (bottom panels). The dotted vertical line at 2012 is taken as the reference point because the policy was implemented in June 2012 and this shows most of its effects since 2013. All the estimates include age dummies, indicators for marital status, education, race dummies, and age at arrival fixed effects.

Focusing on men (see the left panels of Fig. 2), the figure shows that DACA-eligible immigrants become significantly less likely to report insufficient sleep after the implementation of the policy, while there are no significant differences in the pre-trends between eligible and ineligible individuals (between 2009 and 2011). Indeed, when testing the joint hypothesis that the pre-trend coefficients for the years preceding DACA adoption are not significantly different from zero, we cannot reject the null hypothesis for all the sleep duration outcomes (see columns 1, 3 and 5 of Table A.2 in the Appendix).

However, the beneficial effects of DACA attenuate over time, particularly after 2016. There are two possible explanations of this convergence. First, DACA is subject to renewal every two years, thereby leading to some uncertainty among individuals who are due to renew. However, the effect of concerns about renewal should have materialized in 2015, as most applications were approved in 2013. Second, with the approaching 2016 presidential primaries and elections and change in the political climate, the uncertainty about the future of the program increased substantially. During the 2016 campaign, Donald Trump (as many other Republican candidates) publicly declared his intention to rescind the program.

Table 2

Effects of DACA on sleep – individuals aged 18–35.

Dep. var.:	(1) Sleep hours	(2) Sleep hours<7	(3) Sleep hours<8	(4) Sleep satisfaction	(5) Sleeplessness
Panel A: Full sample					
DACA-Eligible * 2013–2015	0.498 (0.365)	−0.102*** (0.037)	−0.138*** (0.050)	0.098 (0.131)	−0.020* (0.012)
DACA-Eligible * 2016–2019	0.100 (0.382)	0.015 (0.038)	−0.048 (0.062)	NA	−0.008 (0.016)
Mean of dep. var.	9.162	0.148	0.289	0.346	0.0464
Std. dev. of dep. var.	2.310	0.355	0.453	0.476	0.210
Observations	25,720	25,720	25,720	7335	25,720
Panel B: Males					
DACA-Eligible * 2013–2015	0.900 (0.578)	−0.177*** (0.053)	−0.219** (0.090)	0.291* (0.161)	−0.042** (0.021)
DACA-Eligible * 2016–2019	−0.075 (0.425)	0.021 (0.045)	−0.005 (0.067)	NA	−0.016 (0.028)
Mean of dep. var.	9.004	0.171	0.319	0.386	0.0444
Std. dev. of dep. var.	2.363	0.377	0.466	0.487	0.206
Observations	11,111	11,111	11,111	3178	11,111
Panel C: Females					
DACA-Eligible * 2013–2015	0.091 (0.388)	−0.022 (0.054)	−0.034 (0.069)	−0.174 (0.122)	−0.007 (0.009)
DACA-Eligible * 2016–2019	0.778* (0.429)	−0.069 (0.042)	−0.179** (0.075)	NA	−0.004 (0.023)
Mean of dep. var.	9.283	0.130	0.266	0.316	0.0480
Std. dev. of dep. var.	2.262	0.336	0.442	0.465	0.214
Observations	14,609	14,609	14,609	4157	14,609

Standard errors are reported in parentheses and are clustered at the state level. All models are estimated using data from 2009–2019 ATUS. Panel A includes both genders, while Panel B includes only men, and Panel C includes only women. Control variables: gender (only Panel A), age dummies, indicators for the ethnic group, marital status and education, as well as state, survey year, month, day and age at arrival fixed effects. NA=not applicable. * Significant at 10%; ** significant at 5%; *** significant at 1%.

For women, by contrast, there is no evidence of an effect of the policy, except some noisy effects in 2017–2019 that lack any systematic pattern (see the right panels of Fig. 2).

Table 2 presents the results of the simple OLS estimation of model (1), using pooled data from the 2009–2019 period for individuals aged 18 to 35 years and distinguishing between the short- (2013–2015) and long-run effects (2016–2019) of the policy. For the short-run effects, we find that DACA-eligible individuals sleep on average 30 minutes longer than ineligible individuals. We also find a significant reduction in the likelihood of reporting less than seven and less than eight hours of sleep. In particular, eligible immigrants are 10.2 percentage points less likely to sleep less than seven hours and 13.8 percentage points less likely to sleep less than eight hours.¹⁰

Consistent with Fig. 2, the effects are larger and more precisely estimated for men (see Panel B), while they are much smaller and no longer significant among women (see Panel C). This result is consistent with other evidence suggesting little or no impacts of DACA on women (Kuka et al., 2020). Among men, we also find a significant increase in sleep satisfaction, which is markedly larger among DACA-eligible immigrants than ineligible ones (see column 4 of Panel B).

While we do not have a perfect measure of sleep quality, we can identify the time individuals report sleeplessness. Interestingly, DACA-eligible immigrants are less likely to report sleeplessness episodes after the introduction of DACA. Specifically, Table 2 documents that DACA-eligible individuals are 2 percentage points less likely to report such episodes (see column 5 of Panel A). The effects are significantly larger among men than women (see column 5 of Panels B and C, respectively).

As shown in Fig. 2, in the long run, the effects of DACA become not statistically different from zero. Indeed, if anything, they change sign (see the coefficients of the interaction term DACA-Eligible* 2016–2019 in Table 2). Again, this result is driven by men. For women, our estimate suggests the opposite effect on sleeping less than eight hours. However, the event study in Fig. 2 shows no clear pattern for women, suggesting an increase in noisy data in the latter years of the sample.

We also show the presence of substantial spatial heterogeneity. In Table 3, we follow Amuedo-Dorantes and Antman (2017) who focus on the nine US states with the most DACA applicants. Reassuringly, our results are larger in these states (see Panel A), while they are smaller and mostly non-significant in all the other states with a low number of applications (see Panel B). Similarly, as displayed in Table 4, the estimated coefficients of interest are larger when examining states with a high (above the median) number of deportations as opposed to those with a low number (see Panels A and B, respectively).¹¹ While the threat of deportation in the period under study is fairly low, recent estimates suggest that 50%

¹⁰ The coefficient of sleep less than six hours is −0.021 (0.041). While the point estimate is sizeable compared with the share of individuals sleeping less than six hours (6.9%), the standard errors are large and the coefficient is imprecisely estimated. Because time-use surveys tend to significantly overestimate sleep (Lauderdale et al., 2006; Avery et al., 2019), unsurprisingly, the share of individuals sleeping less than six hours is relatively low.

¹¹ Instead, we find no clear relationship when comparing states with a Democratic or a Republican governor.

Table 3

Effects of DACA on asleep – individuals aged 18–35 – states with high vs. low applications.

Dep. var.:	(1) Sleep hours	(2) Sleep hours<7	(3) Sleep hours<8	(4) Sleep satisfaction	(5) Sleeplessness
Panel A: States with high number of applications (CA, TX, NY, IL, FL, NC, AZ, GA and NJ)					
DACA-Eligible * 2013–2015	0.649 (0.487)	–0.114** (0.039)	–0.158** (0.061)	0.325** (0.121)	–0.014 (0.014)
DACA-Eligible * 2016–2019	–0.162 (0.489)	0.060 (0.037)	–0.001 (0.078)	NA	–0.003 (0.019)
Mean of dep. var.	9.238	0.145	0.277	0.362	0.0399
Std. dev. of dep. var.	2.331	0.352	0.447	0.481	0.196
Observations	10,764	10,764	10,764	3125	10,764
Panel B: States with low number of applications					
DACA-Eligible * 2013–2015	–0.252 (0.509)	–0.024 (0.080)	–0.049 (0.090)	–0.544*** (0.131)	–0.036 (0.025)
DACA-Eligible * 2016–2019	0.132 (0.357)	–0.017 (0.068)	–0.076 (0.081)	NA	–0.025 (0.034)
Mean of dep. var.	9.108	0.150	0.297	0.334	0.0511
Std. dev. of dep. var.	2.294	0.357	0.457	0.472	0.220
Observations	14,956	14,956	14,956	4210	14,956

Standard errors are reported in parentheses and are clustered at the state level. All models are estimated using data from 2009 to 2019 ATUS. Panel A includes states with a high number of applications (the top 9 states listed above), while Panel B includes all the other states with a low number of applications. Control variables: gender, age dummies, indicators for the ethnic group, marital status and education, as well as state, survey year, month, day and age at arrival fixed effects. NA=not applicable. * Significant at 10%; ** significant at 5%; *** significant at 1%.

Table 4

Effects of DACA on sleep – individuals aged 18–35 – high vs. low deporting states.

Dep. var.:	(1) Sleep hours	(2) Sleep hours<7	(3) Sleep hours<8	(4) Sleep satisfaction	(5) Sleeplessness
Panel A: High-deporting states (above the median)					
DACA-Eligible * 2013–2015	0.580 (0.410)	–0.110** (0.042)	–0.161*** (0.055)	0.191 (0.131)	–0.020 (0.015)
DACA-Eligible * 2016–2019	0.045 (0.438)	0.016 (0.043)	–0.047 (0.077)	NA	0.000 (0.016)
Mean of dep. var.	9.191	0.148	0.284	0.354	0.0434
Std. dev. of dep. var.	2.316	0.355	0.451	0.478	0.204
Observations	17,302	17,302	17,302	4934	17,302
Panel B: Low-deporting states (below the median)					
DACA-Eligible * 2013–2015	–0.345 (0.541)	–0.056 (0.081)	0.000 (0.079)	–0.748*** (0.193)	0.006 (0.028)
DACA-Eligible * 2016–2019	–0.005 (0.554)	0.024 (0.079)	0.011 (0.101)	NA	–0.018 (0.042)
Mean of dep. var.	9.104	0.147	0.297	0.331	0.0526
Std. dev. of dep. var.	2.297	0.354	0.457	0.471	0.223
Observations	8418	8418	8418	2401	8418

Standard errors are reported in parentheses and are clustered at the state level. All models are estimated using data from 2009 to 2019 ATUS. Panel A includes states with a high number of deportations (above the median), while Panel B includes states with a low number of deportations (below the median). Control variables: gender, age dummies, indicators for the ethnic group, marital status and education, as well as state, survey year, month, day and age at arrival fixed effects. NA=not applicable. * Significant at 10%; ** significant at 5%; *** significant at 1%.

of Latinos in the United States fear deportation (Asad, 2020). Our findings suggest that the lower threat of deportation may have lengthened sleep duration among DACA-eligible immigrants.

In what follows, we perform several sensitivity analyses to check the robustness of our results. First, we replicate our analyses using different samples, notably different control groups. In particular, we narrow our sample to include only foreign-born individuals and, as in Venkataramani et al. (2017), foreign-born Hispanics (see Panels A and B of Table 5, respectively). Reassuringly, the point estimates are almost identical, although the standard errors increase markedly because the sample size shrinks considerably, especially in the Hispanic subsample. Table A.3 in the Appendix also shows that the point estimates are substantially unchanged when restricting the sample to non-citizens, although the coefficients are less precisely estimated because of the smaller sample. However, our sample selection criteria are more restrictive than those applied by Venkataramani et al. (2017), who focus on non-citizen adults with Hispanic ethnicity aged 18 to 50, while we maintain the DACA requirement of 18–35 years. Next, we show that our results remain substantially unchanged when restricting the analysis to immigrants who arrived after 1980 (see Table A.4 in the Appendix and Borjas and Slusky, 2017).

Table A.5 in the Appendix shows that our results are also robust to the use of a larger sample of both citizens and non-citizens aged 18–50 years. In Table A.6 in the Appendix, we repeat our analyses taking into account the discrete nature of most of our outcome variables using probit models. The results are similar to our baseline findings (see Table 2). Finally, Table A.7 (A.8) in the Appendix replicates the main estimates using the year (month) of the policy announcement to define

Table 5

Effects of DACA on sleep – foreign-born and hispanic sample – individuals aged 18–35.

Dep. var.:	(1) Sleep hours	(2) Sleep hours<7	(3) Sleep hours<8	(4) Sleep satisfaction	(5) Sleeplessness
Panel A: Foreign-born sample					
DACA-Eligible * 2013–2015	0.470 (0.430)	–0.096** (0.037)	–0.133** (0.060)	0.095 (0.129)	–0.022 (0.015)
DACA-Eligible * 2016–2019	0.185 (0.469)	–0.004 (0.042)	–0.056 (0.073)	NA	0.005 (0.021)
Mean of dep. var.	9.408	0.132	0.257	0.414	0.0268
Std. dev. of dep. var.	2.349	0.339	0.437	0.493	0.162
Observations	3728	3728	3728	997	3728
Panel B: Hispanics sample					
DACA-Eligible * 2013–2015	0.161 (0.529)	–0.082 (0.059)	–0.084 (0.095)	0.094 (0.130)	–0.008 (0.016)
DACA-Eligible * 2016–2019	0.044 (0.588)	0.036 (0.056)	0.004 (0.107)	NA	0.016 (0.025)
Mean of dep. var.	9.528	0.131	0.251	0.473	0.0245
Std. dev. of dep. var.	2.419	0.338	0.434	0.500	0.155
Observations	1553	1553	1553	423	1553

Standard errors are reported in parentheses and are clustered at the state level. All models are estimated using data from 2009 to 2017 ATUS. Panel A includes only foreign-born individuals, while Panel B includes only Hispanics. Control variables: gender, age dummies, indicators for the ethnic group (only Panel A), marital status and education, as well as state, survey year, month, day and age at arrival fixed effects. NA=not applicable. * Significant at 10%; ** significant at 5%; *** significant at 1%.

our treatment variable. While the estimates become somehow noisier, the coefficients are not statistically different from those reported in our main specification. Overall, these sensitivity analyses confirm our baseline results.

5. Conclusion

There has been heated political debate on the effectiveness of the DACA program. Previous work has provided evidence of the positive effects of DACA on labor force participation and other labor market outcomes. There is also evidence of positive effects on health insurance, access to health care, and mental health outcomes as well as mixed evidence on the effects on academic outcomes. However, we know little about the mechanisms underlying such effects. This study explores the role of sleep, which is known to be an important health factor and is directly affected by stress. Exploiting the discontinuities in the DACA eligibility criteria, we provide evidence that DACA-eligible immigrants after 2012 significantly improved their sleep duration. The effects are larger among men. These results are consistent with those of recent studies suggesting that DACA has beneficial effects on immigrants' mental health and well-being (Kaushal et al., 2018; Wang and Kaushal, 2019; Venkataramani et al., 2017; Giuntella and Lonsky, 2020).

While we do not have precise measures of sleep quality, we do find evidence that DACA-eligible immigrants—after the introduction of DACA—were significantly less likely to report episodes of sleeplessness. Although the threat of deportation in the period under study is fairly low, recent estimates suggest that 50% of Latinos in the United States fear deportation. Hence, the lower threat of deportation may be one of the important factors behind our results. The increased economic opportunities associated with the temporary authorization to work are also likely to affect stress and sleep patterns. At the same time, the beneficial effects of the policy seem to dissipate after a few years, becoming non-significantly different from zero after 2016. Therefore, we cannot exclude the implication that DACA provides only short-term benefits and that the increased uncertainty around its future attenuates the positive effects observed in previous studies.

This study has some limitations. First, we use self-reported data from a time-use survey. As pointed out by Lauderdale et al. (2008), the lack of more objective information on sleep may result in substantial measurement error. Second, our results are based on a relatively small sample. While other data (e.g., the National Health Interview Survey) would provide a larger sample, they do not contain precise information on the year of immigration to the United States, which is crucial to identify DACA-eligible individuals. Third, we are unable to precisely identify authorized and unauthorized immigrants and thus the exact DACA-eligible population. Fourth, we estimate an intent-to-treat effect of DACA. Our estimates suggest that the treatment on the treated effects could be twice as large as the intent-to-treat effects.

Despite these limitations, our study contributes to the extant literature. This is the first analysis of the impact of immigration policy on immigrants' sleep patterns. Furthermore, while previous studies have suggested that concerns about immigrant status may affect immigrants' stress and sleep, we are the first to employ a difference-in-differences approach to quantify the impacts of an immigration policy change on immigrants' sleep.

Overall, our results reveal that the stress associated with immigration status, particularly the threat of deportation and lack of work authorization, may significantly affect immigrants' sleep habits. We also show that legalization or temporary authorization programs such as DACA may have non-negligible impacts on immigrants' sleep. At the same time, the effects of temporary programs can be quickly undermined by uncertainty about their future. Thus, while there may be positive

effects in the short term, the uncertainty around the program may increase the vulnerability of targeted individuals over time.

Given growing evidence of the detrimental effects of sleep deprivation on health, cognitive skills, and productivity (Gibson and Shrader, 2018; Giuntella and Mazzonna, 2019; Giuntella et al., 2017), policymakers should not discount the impact of immigration policies on health disparities and the economic integration of immigrants. Sleep deprivation may help explain the unhealthy assimilation of immigrants with time spent in the United States (Antecol and Bedard, 2006). Yet, permanent legalization programs may be more effective at achieving long-term effects by eliminating uncertainty related to the legal status of undocumented immigrants. While this goes beyond the scope of our study, future research could shed light on the role of sleep in explaining immigrants' health trajectories.

Declaration of Competing Interest

We wish to confirm that there are no known conflicts of interest associated with this publication and there has been no significant financial support for this work that could have influenced its outcome.

Supplementary material

Supplementary material associated with this article can be found, in the online version, at doi:[10.1016/j.jebo.2020.11.037](https://doi.org/10.1016/j.jebo.2020.11.037).

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Section: NATIONAL

NEW POLICY ON ILLEGAL IMMIGRANTS

Paul Anderson, Inquirer Washington Bureau

WASHINGTON

Hundreds of thousands of illegal immigrants who are children or spouses of newly legalized immigrants will be allowed to stay in this country and seek jobs under a change in policy announced yesterday by Immigration Commissioner Gene McNary.

The new policy affects spouses and children of 1.7 million illegal immigrants whose status was legalized as part of an amnesty program under the immigration reform law of 1986. The new policy would also legalize the dependents of 1.3 million agricultural workers admitted under the reform law.

Before yesterday's change, spouses and children of immigrants eligible for amnesty were subject to deportation unless they could cite "compelling humanitarian circumstances." Though this happened infrequently - McNary said he was not sure just how many dependents were deported - some deportees were small children, prompting angry criticism of the INS.

"Our guidelines have been fairly nebulous," said McNary, who took over INS last year.

"The problem with the policy as it has been administered over the last three years is that it has not been evenly and uniformly enforced throughout the country," McNary said. "I had to make a decision on a policy that would be applied fairly."

The majority of people affected are likely to be Mexicans living in California.

To qualify for the new policy, people must show that they were living in the United States with their relative prior to Nov. 6, 1986, the date the immigration reform law took effect. That program has provided amnesty to up to three million illegal immigrants who entered the country before Jan. 1, 1982. And they would have to re-apply every year.

McNary and his top aides at the Immigration and Naturalization Service said they could not predict how many dependents would come forward, although they did not dispute estimates from immigrants' advocacy groups of 500,000 or more.

"There's no way to count them. It may run to a million," said INS spokesman Duke Austin.

McNary's move won immediate praise from Capitol Hill and some immigration experts. But Dan Stein, executive director of the conservative Federation for American Immigration Reform, called the new policy "overboard, arbitrary, capricious and illegal."

Among other complaints, Stein said that the change would allow the spouses and children to become eligible for welfare benefits.

McNary acknowledged that, but said he expected that by granting new work permits, there would be fewer people relying on public assistance than there are now.

And, he said, a person's reliance on welfare can be considered when his or her amnesty is reviewed every year.

Rick Swartz, a Washington lawyer who specializes in immigration issues, said he believed McNary's decision is in reaction to expected congressional approval of a change in immigration law that would accomplish much the same goal.

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Issue Brief

The Education and Work Profiles of the DACA Population

By Randy Capps, Michael Fix, and Jie Zong

August 2017

Executive Summary

Now in its fifth year, the Deferred Action for Childhood Arrivals (DACA) program appears to be in jeopardy amid review by a Trump administration that has expressed skepticism of its merits and legality as well as a threatened legal challenge from state opponents. Nearly 800,000 unauthorized immigrants who entered the United States as children and who met certain educational and other requirements have received work authorization and a two-year reprieve from deportation under DACA, which was implemented by the Obama administration in August 2012. Ten state attorneys general, in an effort initiated by the state of Texas, have given notice that they will head into federal court to challenge the legality of the DACA program if the Trump administration does not rescind it and stop approving new applications by September 5, 2017.

To provide greater understanding of the educational and labor force characteristics of the program's eligible population, Migration Policy Institute (MPI) researchers employed an innovative demographic method to examine their educational attainment and occupational distribution. This issue brief also provides educational and labor force characteristics for the overall U.S. population and DACA-ineligible unauthorized population ages 15-32.

The analyses show that almost all individuals immediately eligible to apply for DACA are students or workers, with one-quarter of them juggling both college studies and work. This finding suggests that DACA recipients need to work in order to afford college. It also suggests that as they achieve college degrees, their movement into better jobs would rise over time.

The DACA population is almost evenly divided in terms of enrollment in secondary school, high school completion, or some college education. Five percent hold a bachelor's degree or higher. In the aggregate, the educational attainment of those eligible to apply for DACA lagged that of counterparts in the overall U.S. population. Gender makes a difference in terms of education, with DACA-eligible women over-represented among those with higher educational attainment (accounting for 54 percent of college degrees while comprising 45 percent of the immediately eligible population).

Analysis of the occupational distribution of the DACA eligible finds that this population is more likely to be in lower-skilled jobs when compared to all workers ages 16 to 32. When contrasted to unauthorized immigrants in the same age cohort who are not eligible for DACA, strikingly different occupational patterns emerge. The DACA ineligible are concentrated in work that involves manual labor, including construction, extraction, building and grounds cleaning and maintenance. By contrast DACA-eligible workers were concentrated in white-collar occupations that are carried out indoors, in formal business settings, with regular hours and better pay. As with education, gender makes a difference. DACA-eligible women



are more likely to hold higher-skilled jobs than their male counterparts, in occupations such as health care support and education.

In sum, consistent with the research literature, the DACA program appears to have led to occupational movement out of manual and outdoors employment toward more formal, service-oriented work conducted indoors. Further, the dual work-and-college track for one-fourth of the DACA-eligible population should lead to better jobs as their academic credentials rise. Of course, both of these trajectories would be largely reversed if the program is terminated.

I. Introduction: The Status of DACA at Five

Introduced by the Obama administration in June 2012 and implemented two months later, the Deferred Action for Childhood Arrivals (DACA) program offers work authorization and a two-year reprieve from deportation to unauthorized immigrants who entered the United States as children.¹ DACA links eligibility to a set of educational criteria, requiring that program participants be high school graduates or equivalent or have served honorably in the armed forces, among other requirements.² U.S. Citizenship and Immigration Services (USCIS) reported that 887,000 individuals had applied for DACA as of March 2017; 788,000 had been approved; and 799,000 requests for two-year renewals had been granted.³ The program's participants include many individuals who are students or workers and, as this analysis will reveal, many who are juggling both studies and work.

The Obama administration implemented the program through executive action after years of congressional impasse over immigration reform and, in particular, DREAM Act legislation that would provide legal status to highly educated unauthorized immigrants who had entered the United States as children.⁴ The

administration's action drew a sharp rebuke from a number of Republican politicians, including Donald Trump,⁵ who denounced DACA as an "unconstitutional executive amnesty."

In 2014, President Obama announced an expansion of DACA alongside the creation of a major new program, the Deferred Action for Parents of Americans (DAPA), a similar grant of work authorization and deferred action open to nearly 4 million parents of U.S.-citizen and lawful permanent resident children.⁶ In 2015, Texas and 25 other states sued the federal government to halt the implementation of DAPA and the DACA expansion.⁷ The states argued that Obama had exceeded his authority by granting *de facto* legal status and work authorization to recipients without congressional approval, and that this grant imposed significant costs on states by compelling them to issue driver's licenses and provide other services. A federal district court in Texas enjoined the program, and the injunction was upheld on appeal.⁸ As a result, DAPA and the DACA expansion were never implemented.

The states challenging DAPA did not target the original 2012 DACA program, even as some Republicans continued to oppose it and the Republican presidential contest featured pledges by Trump to terminate the program "on day one."⁹ In June 2017, however, Texas Attorney General Ken Paxton announced his intention to amend the original DAPA lawsuit and broaden it to challenge DACA if the Trump administration did not agree by September 5, 2017 to phase it out. Nine other state attorneys general joined Paxton.¹⁰ Soon after, Homeland Security Secretary John Kelly indicated that the administration would not attempt to defend the program.¹¹ In August 2017, at the time of this writing, President Trump had not stated publicly where he stood on DACA recipients' future. Several months earlier, he had referred to recipients as "incredible kids in many cases" and had indicated he would "deal with DACA with heart."¹²

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A bipartisan group led by Senators Richard Durbin (D-IL) and Lindsey Graham (R-SC) introduced legislation that would extend conditional legal status and a pathway to permanent residency to DACA recipients and some other groups of unauthorized immigrants who entered the United States as children.¹³ The Trump administration signaled that the President would not support this legislation.¹⁴

A. Eligibility and Enrollment

Using a unique demographic methodology, the Migration Policy Institute (MPI) estimated that as of 2016, there were 1.9 million unauthorized immigrants potentially eligible for the DACA program.¹⁵ These include three groups:

- 1.3 million individuals who met all eligibility criteria and were thus immediately eligible to apply for deferred action
- 398,000 unauthorized immigrants meeting all eligibility criteria except for the education requirement (i.e., a high school diploma or its equivalent). These individuals could still qualify if they enrolled in an adult education program leading to a high school diploma or equivalent.¹⁶
- 228,000 children younger than the program's minimum age of 15, who will age into eligibility provided they stay in school.¹⁷

Using the same methodology, MPI has also estimated DACA application rates. As of March 2017, USCIS reported that 887,000 individuals had applied for initial benefits, for an application rate of 68 percent among the immediately eligible population of 1.3 million.¹⁸ Including the 398,000 individuals without a high school degree raises the total potentially eligible population to 1.7 million, and lowers the application rate to 52 percent.¹⁹ MPI has estimated that application rates are higher among youth from Mexico and Central America, and lower among those from Asia and other world regions.²⁰

B. Outcomes for DACA Recipients: Findings from Early Surveys

Early research based on surveys of DACA participants has documented improvements in high school completion and college enrollment, along with acquisition of higher-paying jobs and other social and economic benefits.²¹ These surveys vary in the sizes and characteristics of their samples, and often include mostly better-educated individuals who completed their surveys via the Internet. A fully representative survey has not been conducted, and there are no administrative data on key program recipient characteristics such as educational attainment.

Despite these limitations, the surveys conducted to date indicate that DACA has yielded tangible benefits for large numbers of program participants. A 2013 national survey of 2,700 DACA participants, found that the program improved their access to public universities, trade schools, and additional scholarship opportunities.²² Having work authorization helped college-going DACA recipients afford tuition. Some participants, however, could still not afford four-year colleges or balance work and study, and instead enrolled in two-year colleges or trade schools. In a 2013-14 national survey of 1,300 DACA participants, more than 40 percent reported obtaining their first job as a result of DACA, and almost two-thirds reported getting a higher-paying job.²³ Almost half said they got jobs that better matched their education and training, and met their career goals as well as providing better working conditions. Six percent of survey respondents started a business, 54 percent bought a car, and 60 percent purchased a home. DACA, according to these survey results, has also promoted social integration by reducing participants' fears surrounding their unauthorized status and instilling in them a greater sense of belonging and promoting increased civic participation.²⁴

Besides the self-reported improvement in educational and employment opportunities, DACA enrollees have become eligible for driver's licenses in all states, allowing them to drive and engage in other activities that require government-issued IDs. Several states, including New York and Nebraska, allow DACA recipients to



obtain professional licenses for occupations such as teachers and health-care providers.²⁵

II. Educational Attainment of the Immediately Eligible DACA Population

To qualify, adult DACA participants must have a high school education or its equivalent.²⁶ Many DACA recipients have also attended college. Because the federal government does not report the educational attainment of the DACA grantee population, MPI estimated the population's educational characteristics and school enrollment using its unique dataset with legal status assignments.²⁷ The analysis that follows here reviews characteristics of the immediately eligible population as of 2014—the latest year for which MPI has mapped all the relevant variables onto the data. Those who do not have a high school degree (the 398,000 unauthorized youth listed above in the “but-for-edu-

cation” group) were not included, under the assumption that most will not have enrolled in a qualifying adult education program.²⁸

Roughly two-thirds of the 1.2 million immediately eligible to apply for DACA as of 2014 were either still enrolled in secondary school (31 percent) or had completed high school but not gone on to higher education (33 percent, see Table 1.) Close to one-third had either enrolled in college or completed at least some college. Five percent had completed at least a bachelor's degree. By comparison, 37 percent of the total U.S. population²⁹ in the same age range (15 to 32) were enrolled in college or had completed at least some college; 18 percent had at least a bachelor's degree. Put differently, 54 percent of the overall U.S. population ages 15 to 32 had some college experience versus 36 percent of those immediately eligible for DACA.

DACA-eligible women were better educated than men. Although women accounted for 45 percent of the total immediately eligible

Table 1. Educational Attainment and School Enrollment of the Total U.S. and DACA-Eligible Populations (ages 15 to 32), 2014

Education and Enrollment Status	Immediately Eligible DACA Population		Total U.S. Population	
	Number	Percent	Number	Percent
Total	1,193,000	100	78,867,000	100
Not enrolled and has not completed high school	N/A	N/A	6,113,000	8
Enrolled in secondary school	365,000	31	14,783,000	19
Completed high school and not in higher education	396,000	33	15,154,000	19
Enrolled in college	241,000	20	15,720,000	20
Completed some college	134,000	11	13,115,000	17
Completed at least a bachelor's degree	57,000	5	13,982,000	18

Note: “N/A” refers to the fact that virtually all immediately eligible individuals had either completed high school or were currently enrolled in school—consistent with the program's education requirement. Secondary school includes both middle school and high school. The sample was limited to immediately DACA-eligible individuals and the overall U.S. population ages 15 to 32 in 2014.

Source: Migration Policy Institute (MPI) analysis of data from the U.S. Census Bureau 2014 American Community Survey (ACS) and 2008 Survey of Income and Program Participation (SIPP), with legal status assignments by James Bachmeier of Temple University and Jennifer Van Hook of The Pennsylvania State University, Population Research Institute.

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DACA population, they made up 49 percent of those enrolled in college and 54 percent of those who had completed at least a bachelor's degree.

III. Labor Force Participation of the Immediately Eligible Population

Most DACA-eligible individuals who were not enrolled in secondary school were in the labor force, defined as being either employed or unemployed and searching for work. Equivalent shares of the DACA-eligible population and the total population ages 16 to 32³⁰ were in the labor force: 76 percent.

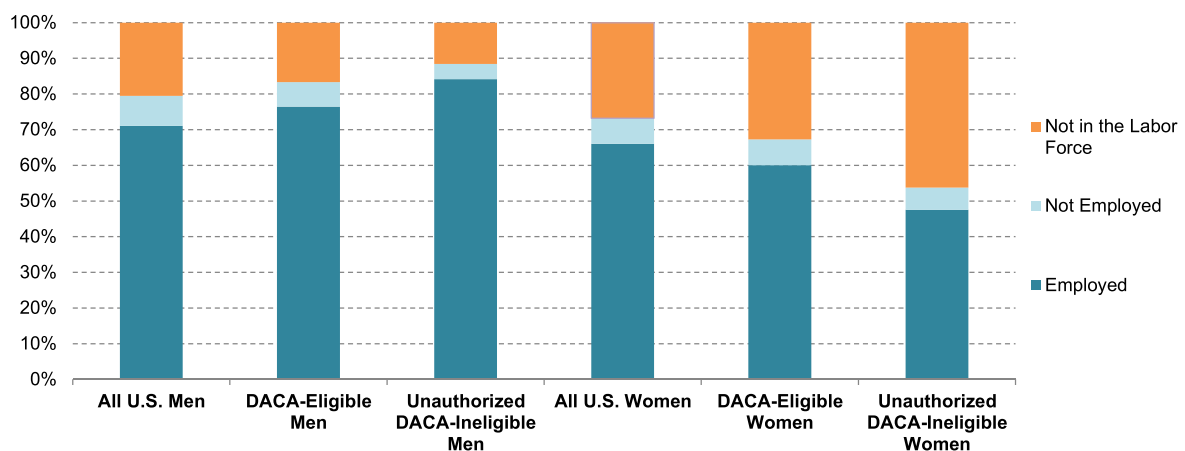
Labor force participation differed significantly by gender. DACA-eligible men were more likely to be in the labor force than U.S. men on average (83 percent versus 79 percent), while DACA-eligible women were less likely to work outside the home: 67 percent versus 73 percent (see Figure 1). DACA-eligible women may be less likely to participate in the labor force than U.S. women overall due to their higher

marriage and child-bearing rates and their lower educational attainment and English proficiency.

However, when compared to unauthorized immigrants in the same age range who were not eligible for deferred action,³¹ DACA-eligible men were less likely to be working (83 percent versus 88 percent), because some stayed in school, delaying their entry into the labor force.³² In contrast, DACA-eligible women participated in the labor force at a higher rate than DACA-ineligible unauthorized women: 67 percent versus 54 percent. These higher levels of participation may owe to the higher educational attainment and English proficiency of DACA-eligible women, and may be related to the wider employment opportunities available to women with work authorization, especially in service-sector jobs in formal settings.

All told, the DACA eligible comprised just 1.3 percent of the 48.9 million people ages 16 to 32 in the U.S. labor force in 2014. The small number and share of DACA participants in the labor force, alongside their occupational dispersal (discussed below), suggest they are not likely to have had a meaningful impact on the employment and wages of other U.S. workers.

Figure 1. Employment and Labor Force Participation of the Total U.S., DACA-Eligible, and DACA-Ineligible Populations (ages 16 to 32), by Gender, (%), 2014



Note: The universe of analysis includes the total U.S. population, those immediately eligible for DACA, and DACA-ineligible unauthorized immigrants ages 16 to 32 who were not enrolled in secondary school in 2014. *Source:* MPI analysis of data from U.S. Census Bureau 2014 ACS and 2008 SIPP, with legal status assignments by Bachmeier and Van Hook.



Table 2. All U.S., DACA-Eligible, and DACA-Ineligible Workers (ages 16 to 32), by Major Occupational Group, 2014

Occupational Group	Total U.S. Population		Immediately Eligible DACA Population		DACA-Ineligible Unauthorized Population	
	Number	Percent	Number	Percent	Number	Percent
Total	43,873,000	100	571,000	100	1,983,000	100
Food Preparation and Serving Occupations	4,425,000	10	89,000	16	311,000	16
Sales and Related Occupations	5,548,000	13	84,000	15	120,000	6
Office and Administrative Support Occupations	5,913,000	13	70,000	12	101,000	5
Construction and Extraction Occupations	1,986,000	5	59,000	10	391,000	20
Production Occupations	2,387,000	5	47,000	8	183,000	9
Transportation and Material Moving Occupations	2,609,000	6	43,000	8	152,000	8
Building and Grounds Cleaning and Maintenance Occupations	1,456,000	3	32,000	6	265,000	13
Management, Business, Science, and Arts	2,566,000	6	22,000	4	44,000	2
Personal Care and Service Occupations	1,939,000	4	22,000	4	52,000	3
Installation, Maintenance, and Repair Workers	1,307,000	3	17,000	3	50,000	2
Farming, Fishing, and Forestry Occupations	390,000	1	14,000	2	141,000	7
Education, Training, and Library Occupations	2,458,000	6	14,000	2	23,000	1
Health-Care Support Occupations	1,316,000	3	11,000	2	20,000	1
Health-Care Practitioners and Technical Occupations	2,209,000	5	9,000	2	24,000	1
Arts, Design, Entertainment, Sports, and Media Occupations	973,000	2	7,000	1	20,000	1
Computer and Mathematical Occupations	1,157,000	3	6,000	1	24,000	1
Business Operations Specialists	964,000	2	6,000	1	13,000	1
Protective Service Occupations	1,001,000	2	5,000	1	6,000	0
Other Occupations	3,268,000	7	13,000	2	49,000	2

Notes: The analysis sample includes all U.S. workers, immediately eligible DACA workers, and DACA-ineligible unauthorized immigrants ages 16 to 32 who were employed and not enrolled in secondary school in 2014. The major occupational groups are based on Census Bureau definitions. Only occupational groups employing at least 5,000 DACA-eligible individuals are presented here.

Source: MPI analysis of data from the U.S. Census Bureau 2014 ACS and 2008 SIPP, with legal status assignments by Bachmeier and Van Hook.

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Additionally, economists have concluded that immigrants (regardless of legal status) without a high-school diploma compete most directly with earlier-arriving immigrants and to a lesser extent with low-skilled U.S.-born workers, and that the effects of job competition are minimal for immigrants with a high school or greater education³³—a group comprising almost all DACA participants.

IV. Occupational Distribution of the DACA-Eligible Population

Unauthorized immigrants immediately eligible for DACA worked in a variety of occupations in 2014, MPI analysis shows. The most common included food preparation and serving (16 percent), sales and related services (15 percent), and office and administrative support occupations (12 percent, see Table 2).³⁴ Compared to all U.S. workers, the DACA eligible were more likely to be employed in lower-skilled occupations and less likely to be in educational, health-care, and management occupations.

Immediately eligible DACA workers were concentrated in different occupations than the unauthorized immigrants who were ineligible. While the latter were heavily represented in jobs that involve manual work—such as construction, extraction, and building and grounds cleaning and maintenance—DACA-eligible workers were most commonly found in white-collar occupations that are usually done indoors in formal business settings, with regular hours and moderate pay. Examples are sales, office, and administrative support occupations.

DACA-eligible workers were most commonly found in white-collar occupations that are usually done indoors in formal business settings, with regular hours and moderate pay.

A. Occupational Groups for DACA-Eligible Workers Who Also Attend College

A sizable share of unauthorized immigrants immediately eligible for DACA were both working and enrolled in college in 2014. Twenty-four percent of employed DACA-eligible workers were also college students, a rate slightly higher than the 20 percent share for all U.S. workers in the same age range (see Table 3). DACA students may be more likely to work while attending college because they cannot otherwise afford their education.³⁵ The level of college enrollment among DACA-eligible workers also underscores their potential future mobility into higher-skilled and higher-paying jobs.

B. Gender Differences in Occupational Distribution of DACA-Eligible Workers

Women appear to account for most of the relatively small share of immediately eligible DACA workers employed in middle- and high-skilled occupations. While women were just 40 percent of all DACA-eligible workers in 2014, they represented 80 percent of those in health-care support; 71 percent of those working in education, training, and library occupations; 67 percent of DACA health-care practitioners and technical workers; and 64 percent of office and administrative support workers (see Table 4). Women were also large majorities of all U.S. workers ages 16 to 32 in these four major occupation groups.



Table 3. Shares of All U.S. and DACA-Eligible Workers (ages 16 to 32) Enrolled in College, by Most Common Major Occupational Groups, 2014

Occupational Group	Immediately Eligible DACA Workers		All U.S. Workers	
	Number	Share Enrolled in College (%)	Number	Share Enrolled in College (%)
Total	571,000	24	43,873,000	20
Education, Training, and Library Occupations	14,000	39	2,458,000	18
Sales and Related Occupations	84,000	38	5,548,000	28
Office and Administrative Support Occupations	70,000	36	5,913,000	25
Arts, Design, Entertainment, Sports, and Media Occupations	7,000	33	973,000	18
Business Operations Specialists	6,000	27	964,000	11
Food Preparation and Serving Occupations	89,000	25	4,425,000	32
Personal Care and Service Occupations	22,000	24	1,939,000	30
Health-Care Support Occupations	11,000	24	1,316,000	26
Health-Care Practitioners and Technical Occupations	9,000	21	2,209,000	15
Computer and Mathematical Occupations	6,000	21	1,157,000	12
Transportation and Material Moving Occupations	43,000	20	2,609,000	16
Protective Service Occupations	5,000	19	1,001,000	21
Management, Business, Science, and Arts	22,000	17	2,566,000	10
Installation, Maintenance, and Repair Workers	17,000	16	1,307,000	11
Building and Grounds Cleaning and Maintenance Occupations	32,000	15	1,456,000	15
Production Occupations	47,000	10	2,387,000	10
Construction and Extraction Occupations	59,000	8	1,986,000	7
Farming, Fishing, and Forestry Occupations	14,000	7	390,000	10
Other Occupations	13,000	25	3,268,000	11

Notes: The analysis sample includes all U.S. workers and immediately eligible DACA workers ages 16 to 32 who were employed and not enrolled in secondary school in 2014. The major occupational groups are based on Census Bureau definitions. Only occupational groups employing at least 5,000 DACA-eligible individuals are presented here.

Source: MPI analysis of data from U.S. Census Bureau 2014 ACS and 2008 SIPP, with legal status assignments by Bachmeier and Van Hook.

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Table 4. Share of Women among All U.S. and DACA-Eligible Workers (ages 16 to 32), by Major Occupational Group, 2014

Occupational Group	Immediately Eligible DACA Workers		All U.S. Workers	
	Number	Female Share (%)	Number	Female Share (%)
Total	571,000	40	43,873,000	48
Health-Care Support Occupations	11,000	80	1,316,000	85
Personal Care and Service Occupations	22,000	75	1,939,000	76
Education, Training, and Library Occupations	14,000	71	2,458,000	71
Health-Care Practitioners and Technical Occupations	9,000	67	2,209,000	76
Office and Administrative Support Occupations	70,000	64	5,913,000	64
Sales and Related Occupations	84,000	60	5,548,000	56
Business Operations Specialists	6,000	50	964,000	56
Arts, Design, Entertainment, Sports, and Media Occupations	7,000	45	973,000	48
Management, Business, Science, and Arts	22,000	42	2,566,000	46
Food Preparation and Serving Occupations	89,000	36	4,425,000	52
Building and Grounds Cleaning and Maintenance Occupations	32,000	34	1,456,000	32
Production Occupations	47,000	30	2,387,000	24
Farming, Fishing, and Forestry Occupations	14,000	22	390,000	21
Computer and Mathematical Occupations	6,000	14	1,157,000	24
Protective Service Occupations	5,000	13	1,001,000	22
Transportation and Material Moving Occupations	43,000	11	2,609,000	15
Construction and Extraction Occupations	59,000	4	1,986,000	3
Installation, Maintenance, and Repair Workers	17,000	1	1,307,000	4
Other Occupations	13,000	45	3,268,000	43

Notes: The universe of analysis includes all U.S. and immediately eligible DACA workers ages 16 to 32 who were employed and were not enrolled in secondary school in 2014. Occupational groups presented here are based on the Census Bureau definitions. Only occupational groups employing at least 5,000 DACA-eligible individuals are presented here.

Source: MPI analysis of data from U.S. Census Bureau 2014 ACS and 2008 SIPP, with legal status assignments by Bachmeier and Van Hook.



V. Conclusion

According to Migration Policy Institute analysis, three-quarters of working-age DACA-eligible individuals were in the labor force in 2014, and one out of four of these employed workers was also in college—a group that could experience future upward occupational mobility.

Although DACA-eligible workers were more likely to hold lower-skilled jobs than U.S. workers overall, they were significantly less likely to be in outdoor manual jobs and more likely to be in white-collar office jobs when compared to unauthorized workers in the same age range who were DACA ineligible. Notably, women appeared to benefit significantly from DACA, as they achieved higher educational attainment and found employment in higher-skilled occupations than DACA men and had broader labor force participation than unauthorized immigrant women who were ineligible for DACA. Deferred action had effects for men as well, however, with males more likely to delay participation in the labor force and stay in school if they were eligible for DACA.

If the Trump administration terminates DACA or the program is successfully challenged in court and recipients lose their employment authorization, most would be unable to continue working in white-collar occupations in formal settings and would have fewer incentives or financial means to enroll in and complete college. Some DACA-eligible individuals could lose access to higher education in those states and institutions where in-state tuition, tuition assistance, or potentially even college enrollment are predicated on DACA. Participants also would lose other tangible benefits—for instance, driver’s licenses and access to home mortgages—that promote better labor market and integration outcomes.

MPI’s analysis indicates that DACA has had a significant impact on the occupational distribution of those who are eligible, as sizeable numbers find themselves in formal occupational settings and white-collar jobs that would have been outside their reach without employment authorization. Further, given the substantial share of the DACA-eligible population enrolled in college while also working, it is likely that their occupational trajectories will be upwards. Future mobility in the workforce would be reversed for these recipients, however, with the program’s termination.

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Appendix: Methodological Notes

The authors analyzed the educational attainment, school enrollment, labor force participation, and occupations of DACA-eligible immigrants using data from the U.S. Census Bureau's 2014 American Community Survey (ACS). The ACS is conducted annually and is the largest source of workforce and population data for the United States. The survey asks respondents whether they are U.S. born and whether they are U.S. citizens, but does not inquire about the legal status of noncitizens.

To identify likely unauthorized immigrants in the dataset, the Migration Policy Institute (MPI) research team linked the ACS to the 2008 Survey of Income and Program Participation (SIPP). The SIPP includes similar variables to the ACS on educational attainment, school enrollment, labor force participation, and occupation, but the SIPP also includes self-reported legal status: i.e., whether noncitizens report being lawful permanent residents (LPRs). The research team linked LPRs in the SIPP to noncitizens in the ACS with similar characteristics (e.g., country of origin, length of U.S. residence, gender, age, and the educational and workforce characteristics modelled for this brief). Noncitizens with nonimmigrant visas or other forms of temporary status—for instance, students, H-1B high-skilled nonimmigrant workers, and those with Temporary Protected Status (TPS)—were excluded from the sample based on the terms of these visas and statuses. The remaining noncitizens were assigned unauthorized status, and those who met the DACA eligibility criteria outlined earlier in this brief were included in the analysis. Eligibility due to adult education program enrollment and ineligibility due to criminal history or lack of continuous U.S. presence were not modeled due to lack of data.

MPI estimates of the DACA-eligible population as of 2016 include unauthorized immigrants who had been in the United States since 2007, were under the age of 16 at the time of their arrival, and were under age 31 as of 2012. Three DACA populations were estimated:

- The immediately eligible, who met both age and educational criteria (i.e., they were ages 15 to 34 in 2016 and were either enrolled in school or had at least a high school diploma or equivalent).
- Those eligible but for education, who were ages 15 to 34 in 2016, did not have a high school diploma or equivalent, and were not enrolled in school.
- Children eligible in the future, who met the age-at-arrival requirements but were ages 7 to 14 in 2016, and will become eligible when they reach age 15 provided they stay in school.

To capture the population eligible to apply as of 2016 based on the 2014 data source, MPI aged in the otherwise eligible 13- and 14-year-olds into two groups. Using Latino youth high school dropout rates (the majority of the DACA population is Latino), a portion of the aged-in cohort was assigned to the eligible but for education group. The remaining majority was assigned to the immediately eligible population.

These estimates were used to calculate the eligible populations and their application rates cited at the beginning of this brief. Estimates later in the brief of educational attainment, labor force participation, and occupations of employment for DACA-eligible immigrants were not aged forward to 2016. Instead, their survey responses in 2014 were used in the analysis, because labor force participation and occupation could not be aged forward by two years.



Endnotes

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- 28 The previous section on DACA-eligible populations aged forward unauthorized immigrants ages 13-14 in 2014 to ages 15-16 in 2016, for purposes of comparison to 2017 USCIS application data. In this section and those that follow, the analysis is based on 2014 data because characteristics such as labor force participation and occupations of employment could not be aged forward. See the appendix for more details on the methodology.
- 29 The total U.S. population in this and following sections includes the immediately eligible DACA population.
- 30 Employment related data are collected only for individuals ages 16 and over.
- 31 This includes those who met all DACA eligibility criteria except for the educational requirement, and those who arrived in the United States after 2012 or did not live in the United States continuously for five years, those who arrived when they were over age 15, and those who were ages 31 or older in 2012.
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The Migration Policy Institute (MPI) is an independent, nonpartisan, nonprofit think tank dedicated to the study of the movement of people worldwide. The Institute provides analysis, development, and evaluation of migration and refugee policies at the local, national, and international levels. It aims to meet the rising demand for pragmatic responses to the challenges and opportunities that migration presents in an ever more integrated world.

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About MPI's United States Immigration Policy Program

With the politics and policy issues of immigration more complex and contentious than ever, it is vitally important that policymakers and the American public have solid information, fact-based analysis, and sound policy ideas on which to base their discussions, and, ultimately, their decisions. Through its U.S. Immigration Policy Program, MPI is providing careful analysis of existing policies and articulating a series of pragmatic, workable policy proposals to overhaul an outdated U.S. immigration system so it can better reflect current realities and needs for U.S. society, employers, communities, and native-born and immigrant residents alike.

Unauthorized Immigrants in the United States

Stable Numbers, Changing Origins

DECEMBER 2020

BY RANDY CAPPS, JULIA GELATT, ARIEL G. RUIZ SOTO, AND JENNIFER VAN HOOK

Executive Summary

The number of unauthorized immigrants in the United States has largely stabilized over the past decade, rebounding slightly after a dip immediately following the recession of 2008–09. As of 2018, the Migration Policy Institute (MPI) estimates that there were 11 million unauthorized immigrants in the country, down slightly from 12.3 million in 2007. This pattern of little growth or even decline in the unauthorized immigrant population has been noted by other analysts as well, and it follows a long period of high growth through the 1990s and early 2000s. Yet there have been notable changes in the characteristics of this population during the numerically stable, post-2008 period. The origin countries of unauthorized immigrants have shifted, for example, as the number of unauthorized immigrants from Mexico has dropped, and populations from other world regions, particularly Asia and Central America, have continued to grow.

This fact sheet offers a profile of the unauthorized immigrant population, using a unique methodology developed by MPI researchers in partnership with leading demographers at The Pennsylvania State University and Temple University to analyze the latest data from the U.S. Census Bureau and U.S. Department of Homeland Security (DHS). It highlights key trends from a newly updated MPI data tool that can be used by policymakers, media professionals,

BOX 1 Explore U.S. and State Data

For a detailed sociodemographic profile of unauthorized immigrants in the United States, 41 states and the District of Colombia, and the 127 counties with the largest unauthorized populations, explore MPI's interactive data tool: bit.ly/unauthdata

scholars, advocates, and the general public to better understand the characteristics of the unauthorized immigrant population at the national, state, and local levels.

Among the key findings:

- ▶ In 2018, though their share was shrinking, Mexicans still accounted for about half of all unauthorized immigrants. Mexico and Central America more broadly remain far and away the greatest source region for unauthorized immigrants—with two-thirds of the total—while Asia came in second with 14 percent.
- ▶ Unauthorized immigrants' share of the total U.S. foreign-born population fell from 30 percent in 2007 to 23 percent in 2018, while the share comprised by legal immigrants—especially naturalized citizens—rose. This shift indicates that the foreign-born population overall is becoming better socially and politically integrated.

- ▶ About 1.6 million unauthorized immigrants were married to U.S. citizens and another 675,000 were married to lawful permanent residents (LPRs) in 2018. At the same time, 4.4 million U.S.-citizen children had at least one unauthorized immigrant parent, as did 100,000 LPR or nonimmigrant children. Citizens and LPRs living in mixed-status families with unauthorized immigrants face potential economic hardship due to the limited employment options of unauthorized immigrants and restrictions on their eligibility for assistance programs such as unemployment insurance and food stamps.
- ▶ In 2018, 15 percent of unauthorized immigrants (1.7 million people) had a temporary status or deferral of deportation with work authorization, including Deferred Action for Childhood Arrivals (DACA) beneficiaries, Temporary Protected Status (TPS) holders, and asylum applicants granted employment authorization.
- ▶ Although they have become more dispersed across the country, unauthorized immigrants remain concentrated in certain states. In 2018, almost one-quarter lived in California, and nearly half lived in either California, Texas, or New York. At the local level, one-fifth resided in the counties where four major cities—Los Angeles, New York, Houston, and Chicago—are located.

The recent stabilization—and in some years, decline—of the unauthorized immigrant population can be attributed to fluctuations in the U.S. economy, a decline in the pool of potential migrants from Mexico as demographics there changed and economic opportunities expanded, and heightened U.S. border and interior immigration enforcement. The changing characteristics of this population are important as states and counties across the country assess the economic contributions of their unauthorized immigrant residents as well as their health,

economic, and social service needs. Looking ahead, future trends in this population's numbers and characteristics will be shaped by the ongoing effects of the Trump administration's ramped-up border enforcement, asylum restrictions, and deportations; the impacts of the pandemic and the associated economic contraction in both the United States and origin countries; and the course the incoming Biden administration sets for U.S. immigration policy.

1 Introduction

The size of the unauthorized immigrant population in the United States has largely stabilized over the past decade. After a long period of high growth that stretched through the 1990s and early 2000s, this population contracted immediately following the recession of 2008–09, before rebounding slightly. Since that recession, the Mexican unauthorized immigrant population has declined substantially, while immigrants from Central America and Asia have grown as a share of the overall unauthorized population.

This fact sheet sketches a profile of the 11 million unauthorized immigrants the Migration Policy Institute (MPI) estimates were living in the country as of 2018. Included in the profile are: their top countries and regions of origin; how they fit within the broader U.S. immigrant population; how many are part of mixed-status families; the U.S. states and counties where the largest numbers live; and key socioeconomic characteristics such as education, English proficiency, and family income levels.

The indicators described in this fact sheet and featured in the associated interactive data tool (bit.ly/unauthdata) are designed to address policy questions such as:

- ▶ How many unauthorized immigrants are eligible for the Deferred Action for Childhood Arrivals (DACA) program, and how many

would be eligible for an expansion of DACA or a broader legalization program?

- ▶ How many are low income and may need assistance during the COVID-19 pandemic and associated recession?
- ▶ How many are well educated, holding a bachelor's degree or higher, and how many are proficient in English?
- ▶ How can past trends in the size and composition of the unauthorized immigrant population help predict future trends?

These types of policy questions resonate not just at the national but also the state and local levels. The unauthorized immigrant population is distributed unevenly across the country, with high concentrations in major metropolitan areas—such as Los Angeles, New York, Houston, and Chicago—but also growing numbers in smaller cities and rural areas across the country. The data described in this

fact sheet and the online tool can be used by these communities to assess the economic contributions of unauthorized immigrants as well as their health, economic, and social service needs.

2 Recent Trends in the Unauthorized Immigrant Population

The 1980s, 1990s, and early 2000s were decades of rapid growth in the United States' immigrant population—both legal and unauthorized. In 1980, there were 12.0 million foreign-born people in the country, of whom an estimated 2.1 million or 18 percent were unauthorized immigrants.¹ By 2000, the foreign-born population had risen to 31.1 million, with the 8.0 million unauthorized immigrants comprising about one-quarter of this total. According to MPI's estimates, the unauthorized immigrant population

BOX 2

Building a Profile of the United States' Unauthorized Immigrant Population

To track trends in the unauthorized immigrant population and provide the best possible estimates of this group at the national, state, and local levels, the Migration Policy Institute (MPI) has partnered with leading demographers at The Pennsylvania State University and Temple University. Together, this research team has developed a unique methodology to estimate the number of unauthorized immigrants and to ascertain their characteristics by assigning legal status to noncitizens in the U.S. Census Bureau's annual American Community Survey (ACS).

Our method combines detailed data from several authoritative data sources, including the Census Bureau and the U.S. Department of Homeland Security (DHS). The first step involves comparing the total foreign-born population in the ACS with the number of legal immigrants counted in DHS administrative records; the difference between these two estimates represents the number of unauthorized immigrants in the country. In a second critical step, the total unauthorized immigrant population is weighted upward using the best available information about the undercount of immigrants in the ACS. In the third and final step, the characteristics of unauthorized immigrants are estimated by comparing the characteristics of noncitizens in the ACS with those of legal versus unauthorized immigrants as reported in the Survey of Income and Program Participation (SIPP). The SIPP is a smaller, periodic, nationwide Census Bureau survey that asks noncitizens whether they have a green card or another form of legal immigration status.

For more information on this methodology, an in-depth explanation can be found on the MPI website: bit.ly/MPILegalStatusMethods

grew by more than 50 percent between 2000 and 2007, peaking at 12.3 million just before the Great Recession (see Figure 1).

The 2008–09 recession led to a spike in unemployment among all U.S. workers, with particularly high rates among Latino immigrants, almost half of whom were unauthorized.² This drop in demand for labor in the United States was accompanied by a pronounced dip in the number of unauthorized immigrants, which fell from 12.3 million in 2007 to 10.3 million in 2010 through 2012. Contributing to this dip was an upswing in deportations from the U.S. interior, which peaked at more than 200,000 annually between fiscal year (FY) 2008 and FY 2011.³ As the economy recovered and deportations subsided,⁴ the population rebounded slowly, reaching 11.0 million in 2018, the latest year for which ACS data are available.

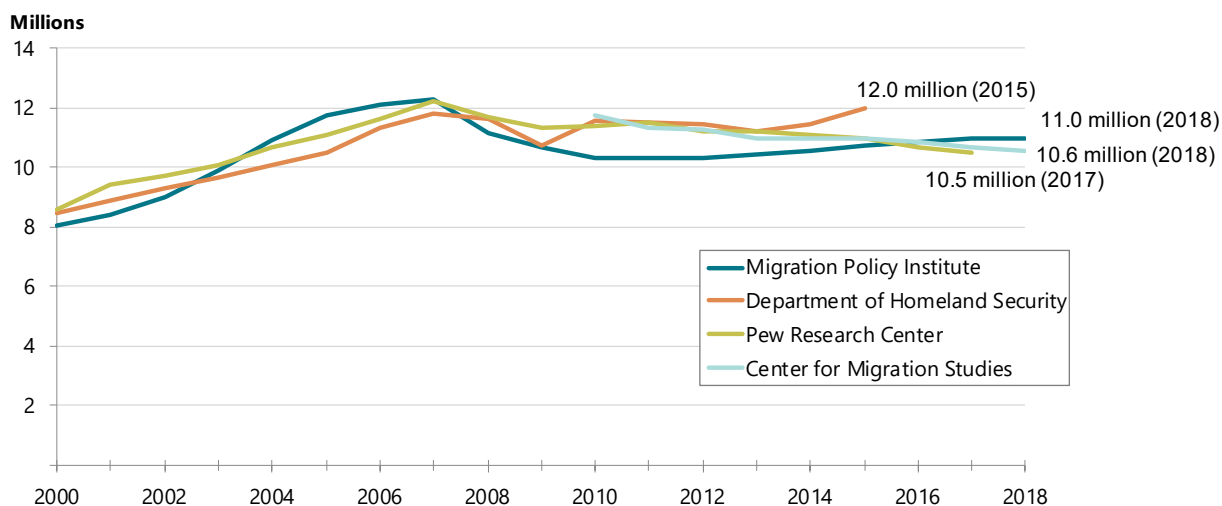
MPI's finding that the unauthorized immigrant population peaked just before the recession is in line

with similar estimates from the Pew Research Center and the U.S. Department of Homeland Security (DHS) Office of Immigration Statistics. After that, estimates by different research organizations diverge somewhat. MPI and DHS find a sharper initial drop followed by a rebound, while Pew and the Center for Migration Studies (CMS) show a more constant rate of decline. But estimates from all four institutions for the 2015–18 period fall within a relatively narrow range of between 10.5 million and 12.0 million.

Mexicans have long comprised the largest group of unauthorized immigrants in the United States. The number of unauthorized immigrants born in Mexico also peaked in 2007, but it has fallen consistently and precipitously since then. MPI estimates that the Mexican-origin unauthorized immigrant population fell from 7.6 million in 2007 to 5.5 million in 2018 (see Figure 2). Estimates from Pew, DHS, and CMS show a similar trend, though with slightly different levels.

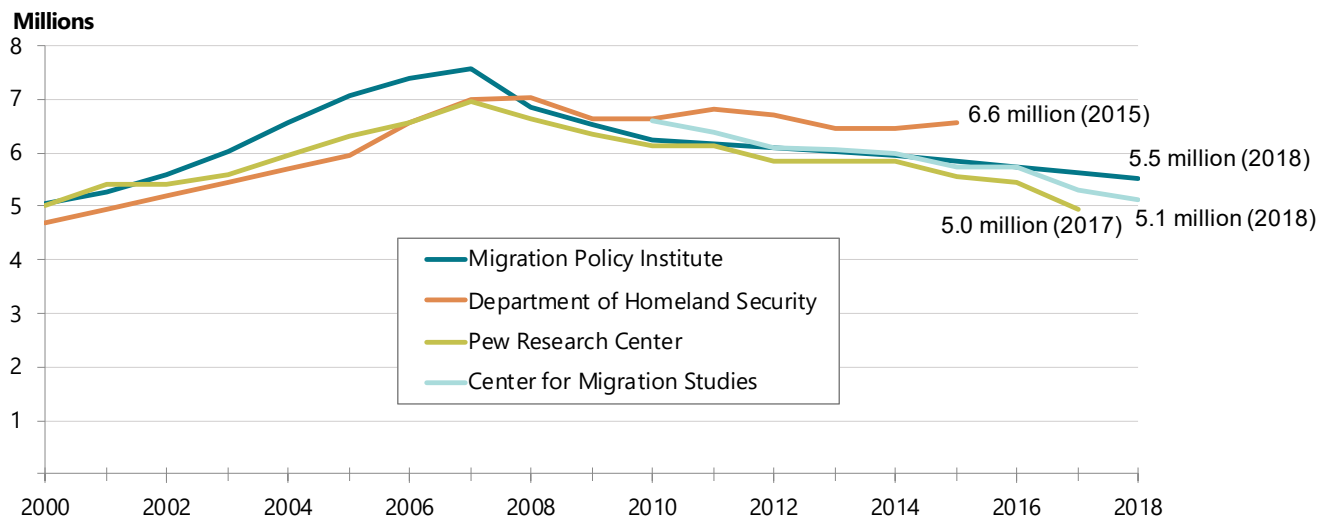
FIGURE 1

Estimates of the Size of the U.S. Unauthorized Immigrant Population, 2000–18



Sources: Analysis of U.S. Department of Homeland Security (DHS) administrative records and data from the U.S. Census Bureau (the 2000 decennial census and the American Community Survey [ACS] for various years) by Migration Policy Institute (MPI) researchers and Jennifer Van Hook at The Pennsylvania State University, Population Research Center. Estimates from other organizations are from Jens Manuel Krogstad, Jeffrey S. Passel, and D'Vera Cohn, "5 Facts about Illegal Immigration in the U.S.," Pew Research Center, June 12, 2019; Robert Warren, "Reverse Migration to Mexico Led to U.S. Undocumented Population Decline: 2010 to 2018," *Journal on Migration and Human Security* 8, no. 1 (2020): 32–41; Bryan Baker, *Illegal Alien Population Residing in the United States: January 2015* (Washington, DC: DHS Office of Immigration Statistics, 2018).

FIGURE 2

Estimates of the Size of the U.S. Unauthorized Immigrant Population from Mexico, 2000–18

Sources: Analysis of DHS administrative records and data from the U.S. Census Bureau (the 2000 decennial census and the ACS for various years) by MPI researchers and Van Hook. Estimates from other organizations are from Krogstad, Passel, and Cohn, “5 Facts about Illegal Immigration in the U.S.”; Warren, “Reverse Migration to Mexico Led to U.S. Undocumented Population Decline”; Baker, *Illegal Alien Population Residing in the United States*.

In addition to declining job prospects in the United States in the wake of the recession and record-high deportations, Mexicans who might otherwise have considered coming to the United States illegally benefitted from improved conditions at home: a shrinking youth population that reduced competition for work, improved economic conditions that offered new job opportunities, and an expanding higher education system.⁵ Stepped-up border enforcement efforts by the U.S. government—with increased deployment of personnel and technology alongside greater consequences for immigrants apprehended while illegally (re)entering the country, including potential federal prison time—also contributed to the decline in the Mexican unauthorized immigrant population.⁶ Consequently, the proportion of Mexicans among all unauthorized immigrants fell from 62 percent to 51 percent between 2007 and 2018.

As the number of unauthorized Mexican immigrants declined after 2007, the number from some other countries and regions increased. The largest increase—from 866,000 in 2007 to 1.5 million in 2018

(and from 7 percent to 14 percent of the overall unauthorized population)—occurred among unauthorized immigrants born in Asia. The top Asian sending countries were India, China/Hong Kong, the Philippines, Korea, and Vietnam. The number of unauthorized immigrants born in Central America—primarily in El Salvador, Guatemala, and Honduras—also increased from 1.5 million in 2007 to 1.8 million in 2018 (and from 12 percent to 16 percent of all unauthorized immigrants). Unauthorized immigrants from Asia almost all overstayed valid visas, while those from Central America—like Mexicans—mostly entered the United States without authorization across the Southwest border.⁷

3 National Origins of Unauthorized Immigrants

Despite their decline in number and share, Mexicans still accounted for about half of all unauthorized immigrants in the United States in 2018. Among

the other nine most common origin countries were three in Central America (El Salvador, Guatemala, and Honduras) as well as three in Asia (India, China/Hong Kong, and the Philippines), as can be seen in Table 1. All countries except Mexico comprised less than 10 percent of the total unauthorized population in 2018.

TABLE 1
Ten Most Common Origin Countries for Unauthorized Immigrants in the United States, 2018

Origin Country	Estimated Number of Unauthorized Immigrants	Share of Total Unauthorized Immigrant Population
Total	10,977,000	100%
Mexico	5,572,000	51%
El Salvador	750,000	7%
Guatemala	588,000	5%
India	469,000	4%
Honduras	402,000	4%
China/Hong Kong	394,000	4%
The Philippines	233,000	2%
Dominican Republic	191,000	2%
Colombia	182,000	2%
Brazil	145,000	1%

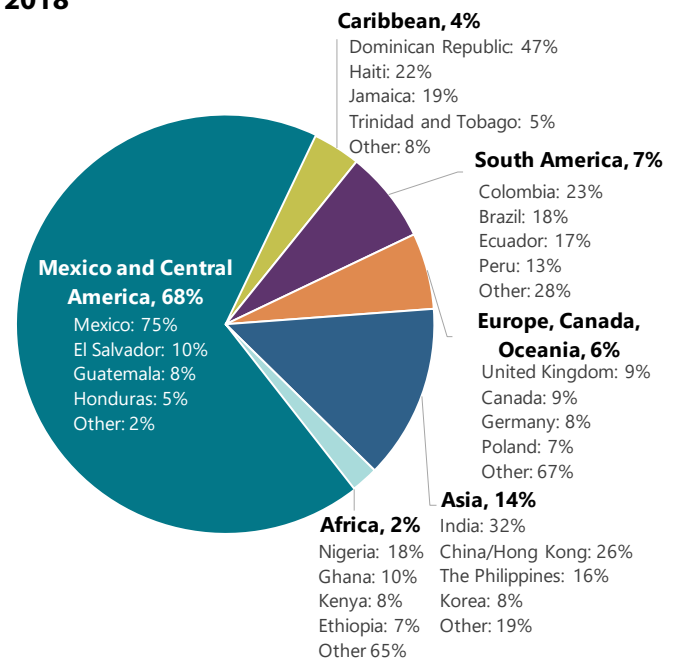
Source: These 2018 data result from MPI analysis of data from the 2014–18 ACS, pooled, and the 2008 Survey of Income and Program Participation (SIPP), weighted to 2018 unauthorized immigrant population estimates provided by Jennifer Van Hook at The Pennsylvania State University.

BOX 3 Explore Country and Region of Origin Data

To find out more about where unauthorized immigrants in different U.S. states and counties come from, explore MPI's interactive data tool: bit.ly/unauthmap

Looking at world regions, Mexicans and Central Americans together were two-thirds of the overall unauthorized population in 2018. Asians accounted for 14 percent, and all other world regions made up less than 10 percent of the total (see Figure 3).

FIGURE 3
Regions of Origin and Top Countries within Them for Unauthorized Immigrants in the United States, 2018



Source: These 2018 data result from MPI analysis of data from the 2014–18 ACS, pooled, and the 2008 SIPP, weighted to 2018 unauthorized immigrant population estimates provided by Van Hook.

4 Unauthorized and Other Immigrants in the United States

In 2018, unauthorized immigrants comprised an estimated 23 percent of the total U.S. immigrant population of 47.5 million (see Figure 4).⁸ In the decade leading up to 2018, the share of immigrants who were unauthorized declined as their absolute number fell. In 2007, at their peak, unauthorized immigrants accounted for more than 30 percent of the total foreign-born population of 40.6 million.⁹

Meanwhile, the number of naturalized U.S. citizens rose and became an increasing share of all immigrants, and the number who were lawful permanent residents (LPRs, also known as green-card holders) or nonimmigrants held steady. In 2018, the 21.0 million naturalized citizens made up the largest share of all immigrants—44 percent, up from 36 percent in 2007. The number of LPRs grew much more slowly over this period, from an estimated 12.8 million in 2007 to 13.5 million in 2018.¹⁰ Although about 1 million people are admitted to the United States as LPRs each year, growth in this population is offset as some green-card holders naturalize and others emigrate.¹¹

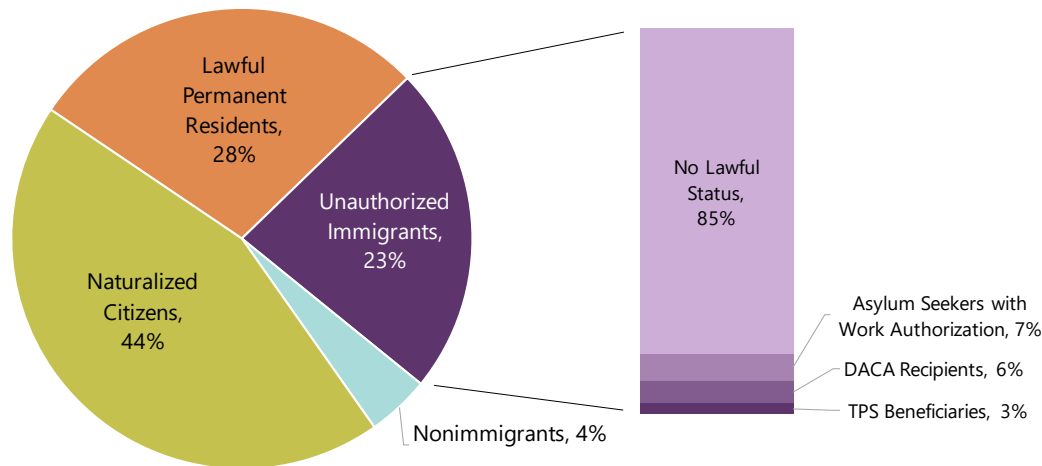
Another group of noncitizens (2.1 million as of 2018) were admitted on a temporary basis with nonimmigrant visas.¹² Nonimmigrants include students, diplomats, religious workers, and temporary workers in both high-skilled jobs (H-1B technical workers and L managers or skilled workers) and low-skilled jobs (H-2A agricultural seasonal workers and H-2B hospitality and other nonagricultural seasonal workers). The total number of nonimmigrants in the country is much smaller than the numbers of LPRs, naturalized citizens, and unauthorized immigrants because nonimmigrants generally stay in the United States for short periods, meaning this population does not accumulate in number the way other immigrant groups do.

MPI estimates of the unauthorized immigrant population—like those of other research organizations—include some individuals who, while lacking citizenship or a visa, have temporary protection from deportation and work authorization. These forms of protection are subject to the discretion of the U.S. executive branch, which can revoke them—as the Trump administration attempted to do, though its attempts were mostly blocked in court. Once protection is revoked, these immigrants are potentially subject to arrest and deportation.

In 2018, 15 percent of the estimated unauthorized immigrant population (1.7 million people) had one of three major forms of protection:

- 1 **Asylum applicants with employment authorization documents: 738,000 (7 percent of the total 11 million unauthorized immigrants).** Until recently, asylum applicants became eligible to apply for work authorization once their applications had been pending for six months. A new regulation that entered into force in August 2020 extended this waiting period to one year.¹³
- 2 **Deferred Action for Childhood Arrivals (DACA) recipients: 646,000 (6 percent of the total).** Through an executive action in 2012, the Obama administration created the DACA program, which offered two-year, renewable reprieves from deportation for unauthorized immigrants who entered the United States as children (under age 16) before June 15, 2007; who were under age 31 as of June 15, 2012; who were ages 15 or older when they first applied for DACA; and who meet certain other conditions.¹⁴ President Trump sought to end the DACA program on September 5, 2017, but to-date, the program has been kept alive through litigation.¹⁵
- 3 **Temporary Protected Status (TPS) holders: 320,000 (3 percent of the total).** In the *Immigration Act of 1990*, Congress created TPS for migrants who cannot safely return to their origin countries due to armed conflict, natural disasters such as hurricanes and earthquakes, or other extraordinary and temporary conditions. The statute allows the administration to designate and redesignate certain countries for TPS on a periodic basis to reflect changing origin-country conditions. In 2020, the top origin countries for TPS

FIGURE 4

Citizenship and Legal Status of the U.S. Foreign-Born Population, 2018

TPS = Temporary Protected Status; DACA = Deferred Action for Childhood Arrivals.

Sources: These 2018 data result from MPI analysis of data from the 2014–18 ACS, pooled, and the 2008 SIPP, weighted to 2018 unauthorized immigrant population estimates provided by Van Hook. Data on DACA recipients are from: U.S. Citizenship and Immigration Services (USCIS), “[Approximate Active DACA Recipients: As of June 30, 2020](#)” (data table, USCIS, Washington, DC, November 16, 2020). Data on TPS beneficiaries are from: Jill Wilson, *Temporary Protected Status: Overview and Current Issues* (Washington, DC: Congressional Research Service, 2018); USCIS, “[Extension of the Designation of Syria for Temporary Protected Status](#),” *Federal Register* 84, no. 184 (September 23, 2019): 49751–57; USCIS, “[Extension of the Designation of Yemen for Temporary Protected Status](#),” *Federal Register* 85, no. 41 (March 2, 2020): 12313–19; USCIS, “[Extension of the Designation of Somalia for Temporary Protected Status](#),” *Federal Register* 85, no. 48 (March 11, 2020): 14229–35; USCIS, “[Extension of the Designation of South Sudan for Temporary Protected Status](#),” *Federal Register* 85, no. 212 (November 2, 2020): 69344–51. Data on asylum seekers are from: USCIS, “[Form I-765 Application for Employment Authorization, All Receipts, Approvals, Denials Grouped by Eligibility Category and Filing Type](#)” (data table for Fiscal Years 2018 and 2017, USCIS, Washington, DC, accessed November 1, 2020).

beneficiaries were El Salvador, Honduras, Haiti, and Nicaragua.¹⁶

Other, smaller groups within the unauthorized immigrant population also have temporary protection from deportation and work authorization but could not be estimated. These include, for example, individuals granted deferred action (essentially, recognition that the government knows they are in the United States without authorization but does not plan to deport them) and those granted withholding of removal (a status granted to humanitarian migrants who do not meet the standards for asylum but demonstrate a clear probability of persecution if sent to their origin country).

Estimates of how many unauthorized immigrants have DACA, TPS, or other forms of temporary protec-

tion subject to executive discretion will be of policy importance to the incoming Biden administration. The president-elect has expressed his commitment to maintain the full scope of the DACA program as originally implemented,¹⁷ and extensions or reinstatements of TPS designations are also likely to be on the new administration’s agenda.

5 Legal Status of Unauthorized Immigrants’ Family Members

Understanding the legal status(es) of unauthorized immigrants’ family members is more complex be-

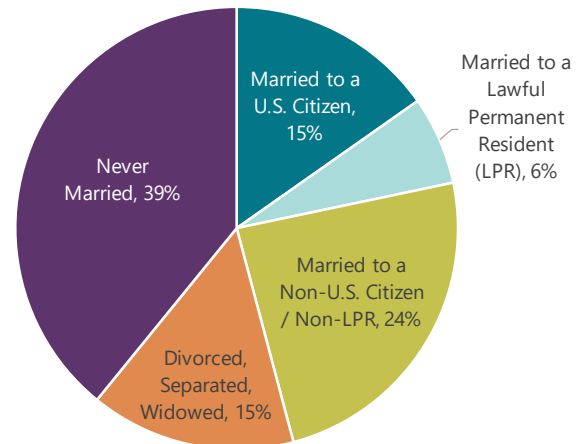
cause individual members of an immigrant family often have different statuses. For instance, in 2018, nearly half of unauthorized immigrant adults (ages 15 and older) were married and, of those who were, nearly half were married to a U.S. citizen or LPR (see Figure 5). MPI estimates that 1.6 million unauthorized immigrants were married to U.S. citizens and 675,000 were married to LPRs in 2018. In other words, more than one-fifth of unauthorized immigrant adults were married to a U.S. citizen or green-card holder.

MPI estimates that, as of 2018, there were 5.2 million children (ages 17 and under) with at least one unauthorized immigrant parent; they accounted for 27 percent of the 19.7 million children with at least one immigrant parent of any legal status, and 7 percent of the total U.S. child population of 73.8 million (see Figure 6).

Most of the children who lived with unauthorized immigrant parents were born in the United States, and all U.S.-born children are automatically U.S. citizens. As a result, 85 percent of all children with

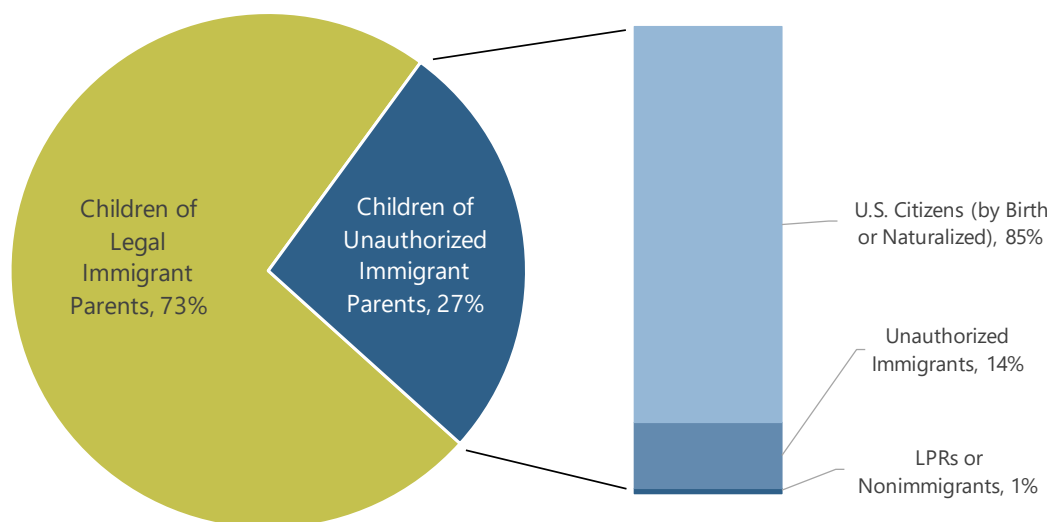
at least one unauthorized immigrant parent were U.S. citizens in 2018 (a total of 4.4 million children). Another 1 percent (fewer than 100,000) were LPRs or nonimmigrants, owing to the presence of at least one parent with that status in the household. The

FIGURE 5
Marital Status of Unauthorized Immigrant Adults (ages 15 and older) in the United States and Spouses' Immigration Status, 2018



Source: These 2018 data result from MPI analysis of data from the 2014–18 ACS, pooled, and the 2008 SIPP, weighted to 2018 unauthorized immigrant population estimates provided by Van Hook.

FIGURE 6
Citizenship and Immigration Status of Children of Immigrants* in the United States, 2018



* Children of immigrants have at least one foreign-born parent. Children of unauthorized immigrant parents have at least one unauthorized immigrant parent, while children of legal immigrant parents do not have any unauthorized immigrant parents. Source: These 2018 data result from MPI analysis of data from the 2014–18 ACS, pooled, and the 2008 SIPP, weighted to 2018 unauthorized immigrant population estimates provided by Van Hook.

remaining 728,000 children with unauthorized immigrant parents were themselves unauthorized.

Having an unauthorized immigrant parent or spouse can affect the economic well-being and access to government assistance of other adults and children in immigrant families.¹⁸ Unauthorized immigrants have limited job prospects due to restrictions on licensing for many occupations and unregulated, informal employment in others. Research has shown that unauthorized immigrants' often chaotic work schedules, poor working conditions, and low autonomy on the job can lead to psychological distress, with negative implications for child development.¹⁹ Youth with unauthorized immigrant parents complete less schooling than those with legal immigrant parents from the same countries.²⁰ And lack of immigration status can disqualify parents from eligibility for many forms of government assistance such as unemployment benefits, the Supplemental Nutrition Assistance Program (also called food stamps) and the pandemic stimulus payments issued under the *Coronavirus Aid, Relief, and Economic Security (CARES) Act*, leading to lower family incomes and higher economic hardship among their U.S.-citizen children.²¹ Similarly, having an unauthorized immigrant spouse makes U.S. citizens and LPRs eligible for lower food stamp benefits and excluded them from the pandemic stimulus payments.

6 Top U.S. States and Counties for Unauthorized Immigrants

Unauthorized immigrants have long been most concentrated in the U.S. Southwest, though they also live in communities across the country. In 2018, California had the most unauthorized immigrants of any state: 2.6 million, or almost one-quarter of the national total (see Table 2). Texas had the second most

with 1.7 million, or 16 percent of the total population. No other state accounted for more than 10 percent of the U.S. unauthorized immigrant population. All of the other states in the top ten—except for Arizona—were located outside of the Southwest. These ten states together accounted for 73 percent of the nationwide unauthorized immigrant population.

BOX 4 Explore Data on DACA Recipients' States of Residence

To find out which U.S. states have the most beneficiaries of the Deferred Action for Childhood Arrivals (DACA) program, explore MPI's interactive data tools for the program: bit.ly/dacatools

TABLE 2
Ten U.S. States with the Largest Unauthorized Immigrant Populations, 2018

State	Estimated Number of Unauthorized Immigrants	Share of Total Unauthorized Immigrant Population
United States	10,977,000	100%
California	2,625,000	24%
Texas	1,730,000	16%
New York	866,000	8%
Florida	732,000	7%
Illinois	437,000	4%
New Jersey	425,000	4%
Georgia	330,000	3%
North Carolina	298,000	3%
Arizona	281,000	3%
Virginia	251,000	2%

Source: These 2018 data result from MPI analysis of data from the 2014–18 ACS, pooled, and the 2008 SIPP, weighted to 2018 unauthorized immigrant population estimates provided by Van Hook.

Unauthorized immigrants are also highly concentrated in a small number of cities and counties. The counties containing the four largest U.S. cities together accounted for about one-fifth of the nationwide unauthorized immigrant population in 2018

(see Table 3). Los Angeles County had 8 percent of the total, while New York City's five counties had 6 percent. Harris County, where Houston is located, had 4 percent of the total, and Cook County (which includes Chicago) had another 2 percent. Together, the top ten localities together were home to one-third of all unauthorized immigrants.

TABLE 3

Ten U.S. Localities with the Largest Unauthorized Immigrant Populations, 2018

County	Estimated Number of Unauthorized Immigrants	Share of Total Unauthorized Immigrant Population
United States	10,977,000	100%
Los Angeles County, CA	880,000	8%
New York City Counties*	616,000	6%
Harris County, TX	466,000	4%
Dallas County, TX	278,000	3%
Cook County, IL	263,000	2%
Orange County, CA	223,000	2%
Maricopa County, AZ	202,000	2%
Boston-Cambridge-Quincy, MA Metropolitan NECTA**	177,000	2%
Miami Dade-Monroe Counties, FL	176,000	2%
San Diego County, CA	173,000	2%

* New York City Counties include Bronx County, Kings County, New York County, Queens County, and Richmond County.

** New England City and Town Areas (NECTAs) are geographic entities defined by the U.S. Census Bureau for use as alternatives to counties in the six-state New England region.

Source: These 2018 data result from MPI analysis of data from the 2014–18 ACS, pooled, and the 2008 SIPP, weighted to 2018 unauthorized immigrant population estimates provided by Van Hook.

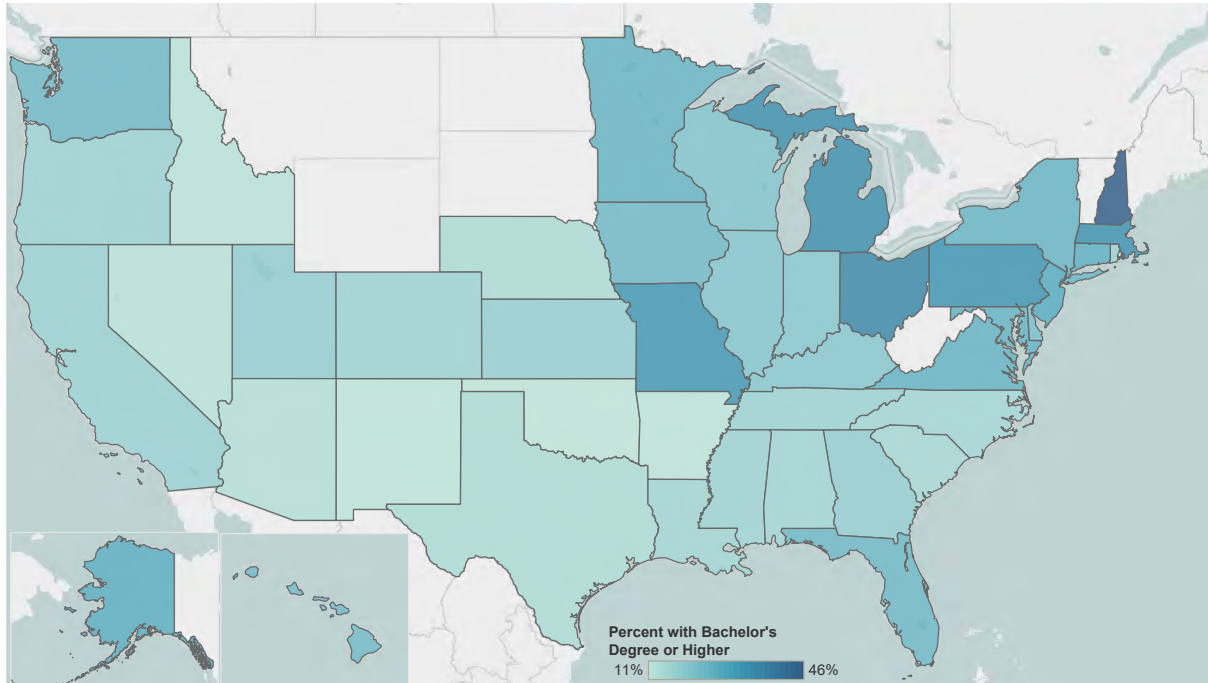
7 Socioeconomic Characteristics of Unauthorized Immigrants

While most unauthorized immigrants' job prospects are limited by their lack of work authorization, many bring substantial human capital to the U.S. labor market. In 2018, almost one-fifth of unauthorized immigrants had a four-year college degree, compared to one-third of the overall U.S. population.²² Some unauthorized immigrants, both those with more and less formal education, were employed in industries that have become essential during the COVID-19 pandemic, such as health care, agriculture, food processing, and transportation.²³

The educational attainment of unauthorized immigrants varies by where in the United States they live and their national origins. In 2018, New Hampshire, Washington, DC, Ohio, Michigan, and Massachusetts had the best-educated unauthorized immigrant populations (see Figure 7). Among unauthorized immigrants from the top ten countries of origin, those from India, China, the Philippines, and Brazil were the most likely to have a bachelor's degree or higher (see Figure 8).

In general, unauthorized immigrants in the Northeastern and Midwestern states tended to have more formal education than those living elsewhere. They were also more likely to be from Asia, the Caribbean, and South America—regions that include some of the top origin countries for college-educated unauthorized immigrants (such as China, India, the Dominican Republic, Brazil, and Colombia). In the West and South, a higher proportion of unauthorized immigrants fall into the less well-educated group from Mexico and Central America.

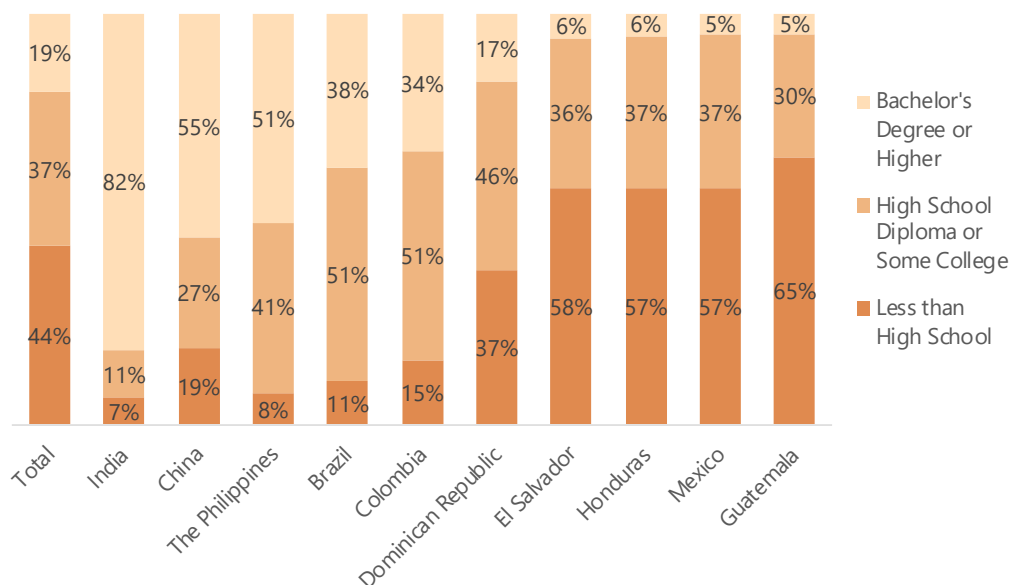
FIGURE 7

College-Educated Share of Unauthorized Immigrants, by State, 2018

Notes: The college-educated immigrants included in this figure are those with a bachelor's degree or higher. States not shaded are those for which the characteristics of unauthorized immigrants could not be estimated due to small sample sizes.

Source: These 2018 data result from MPI analysis of data from the 2014–18 ACS, pooled, and the 2008 SIPP, weighted to 2018 unauthorized immigrant population estimates provided by Van Hook.

FIGURE 8

Educational Attainment of Unauthorized Immigrant Adults (ages 25 and older) in the United States, Overall and for the Top Ten Countries of Birth, 2018

Source: These 2018 data result from MPI analysis of data from the 2014–18 ACS, pooled, and the 2008 SIPP, weighted to 2018 unauthorized immigrant population estimates provided by Van Hook.

The most common non-English languages among unauthorized immigrants in 2018 were Spanish (72 percent), Chinese (8 percent, including speakers of Mandarin, Cantonese, and other Chinese languages), Filipino or Tagalog (2 percent), Portuguese (2 percent), and Hindi (1 percent). Spanish was the most common language among unauthorized immigrants in all states except Hawaii, where the category “Pacific Islander languages” sat at the top of the list, and Alaska, where the top language was Tagalog. English was the second most commonly spoken language among unauthorized immigrants in all states except Hawaii (Tagalog) and Massachusetts (Portuguese). Beyond that, there was more state-to-state variation; the third most common language was Chinese in 20

English-Proficient Share of Unauthorized Immigrants Ages 5 and Older in the United States, by State, 2018

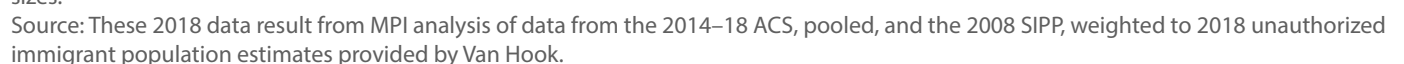
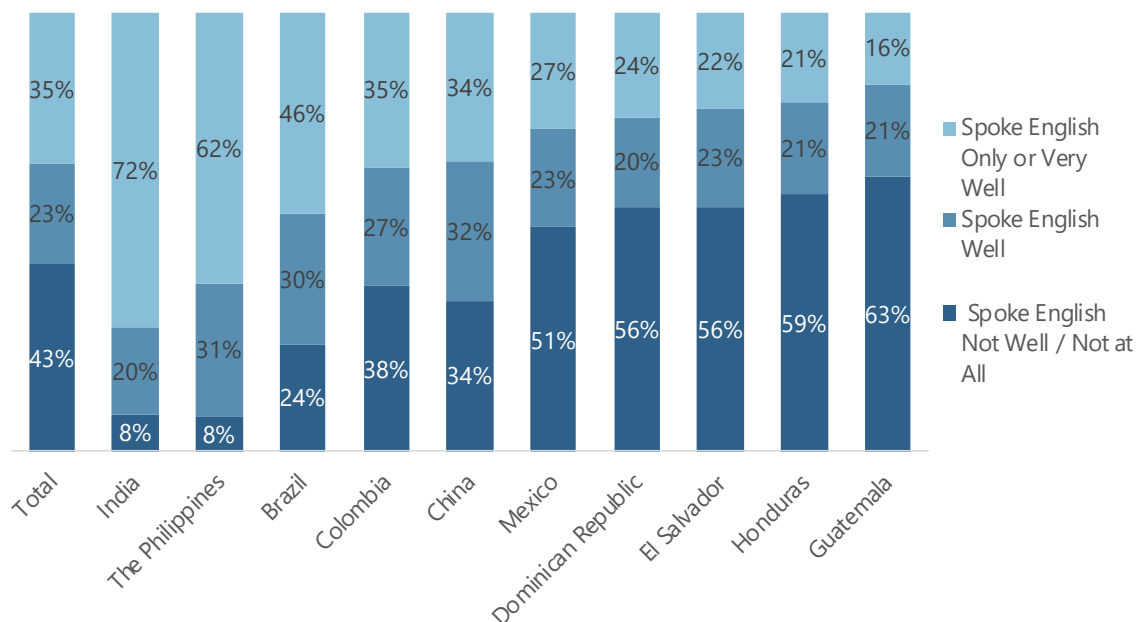


FIGURE 10

English Proficiency of Unauthorized Immigrants Ages 5 and Older in the United States, Overall and for the Top Ten Countries of Birth, 2018

Source: These 2018 data result from MPI analysis of data from the 2014–18 ACS, pooled, and the 2008 SIPP, weighted to 2018 unauthorized immigrant population estimates provided by Van Hook.

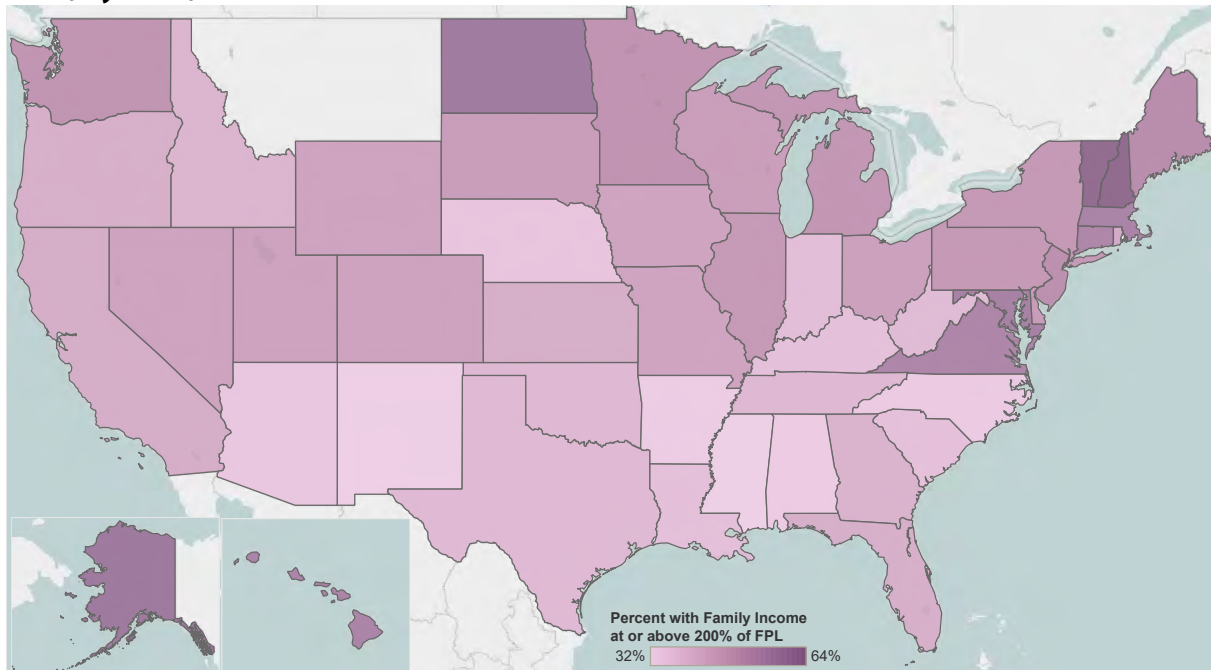
states, Haitian Creole in Florida, Polish in Illinois, and Portuguese in Connecticut and New Jersey.

In 2018, 26 percent of unauthorized immigrants had family incomes below the federal poverty level, while 43 percent had incomes of at least twice this level.²⁴ The places where unauthorized immigrants had the highest family incomes were New Hampshire, Vermont, Washington, DC, Alaska, and North Dakota (see Figure 11). Some of these are among the

places with the best educated and most English-proficient unauthorized populations (see Figures 7 and 8).

Among unauthorized immigrants from the top origin countries, those from India, the Philippines, Brazil, and Colombia had the highest family incomes, correlating with the groups showing both the highest educational attainment and strongest English skills (see Figure 12).

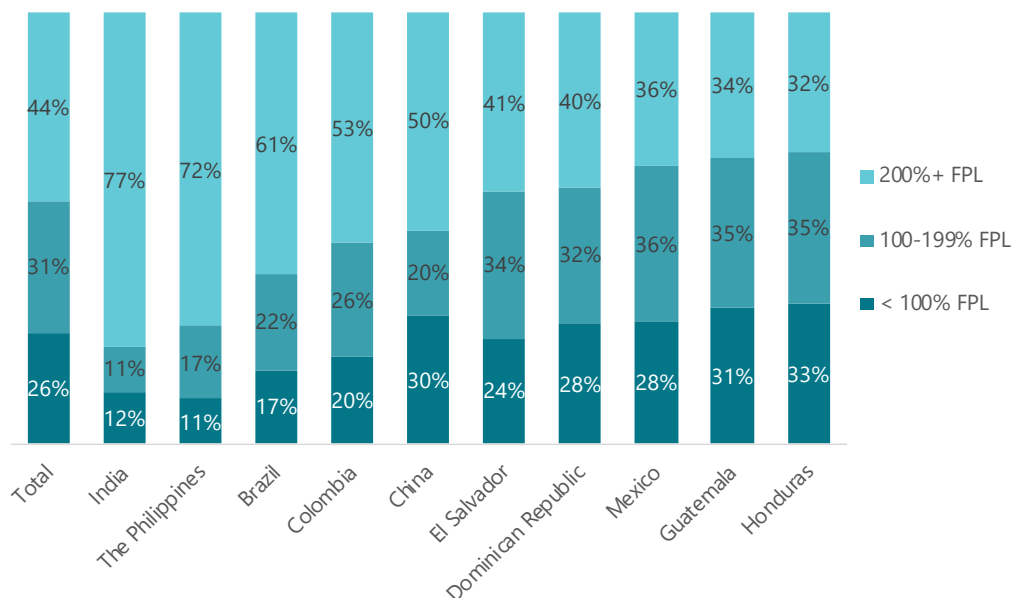
FIGURE 11

Share of Unauthorized Immigrants with Family Incomes at or above 200 Percent of the Federal Poverty Level, by State, 2018

Note: States not shaded are those for which the characteristics of unauthorized immigrants could not be estimated due to small sample sizes.

Source: These 2018 data result from MPI analysis of data from the 2014–18 ACS, pooled, and the 2008 SIPP, weighted to 2018 unauthorized immigrant population estimates provided by Van Hook.

FIGURE 12

Family Incomes of Unauthorized Immigrants in the United States Relative to the Federal Poverty Level, Overall and for the Top Ten Countries of Birth, 2018

Source: These 2018 data result from MPI analysis of data from the 2014–18 ACS, pooled, and the 2008 SIPP, weighted to 2018 unauthorized immigrant population estimates provided by Van Hook.

8 Conclusion

The size of the unauthorized immigrant population in the United States has remained relatively steady since the 2008–09 recession. At the same time, its composition has shifted. Unauthorized immigrants from Mexico, while still the largest origin group, now make up a smaller share of the overall unauthorized population, while those from other countries, particularly in Asia and Central America, account for larger shares. Whether these trends continue will depend on the ongoing impact of substantial U.S. immigration policy changes implemented under the Trump administration and those put forward by the incoming Biden administration, as well as by the trajectory of the COVID-19 pandemic, the U.S. economy, and conditions in major origin countries such as Mexico, El Salvador, Guatemala, and Honduras.

The 2008–09 recession broke a decades-long pattern of growth in the United States' unauthorized immigrant population. Though the U.S. economy rebounded after the recession, changing demographics and an improved economy in Mexico reduced the pool of would-be unauthorized immigrants from that country. Migration from the Central American countries of El Salvador, Guatemala, and Honduras—where economic and social conditions remain weak and unstable—only partially filled the gap. Meanwhile, the number of unauthorized immigrants from Asia increased as more migrants from countries in that region overstayed their visas. The result was a substantial shift in the composition of the unauthorized immigrant population away from Mexican origins and toward Central Americans and Asians.

Heightened U.S. immigration enforcement and shifting trends in migrant arrivals at the U.S.-Mexico border also contributed to the stalling number of unauthorized immigrants and changes in their characteristics. Between the 2008–09 recession and 2018, the Border Patrol augmented surveillance and

staffing along the border, erected more barriers, and increasingly imposed penalties such as federal prison sentences on apprehended migrants. U.S. Immigration and Customs Enforcement (ICE) deported record numbers of unauthorized immigrants living in the United States during the 2009–11 period and, following a dip during the later Obama years, ramped deportations back up after Trump took office in 2017. And starting in 2014, the composition of migrants apprehended at the Southwest border shifted from primarily Mexican adults to primarily Central American families and children, resulting in a short-term spike in Central Americans entering the United States as asylum seekers, peaking in 2019.²⁵

Looking beyond 2018 and the data analyzed in this fact sheet, recent policy decisions and world events continue to shape the U.S. unauthorized immigrant population. During the 2018–19 period of heightened asylum claims by Central Americans, the Trump administration implemented measures that make it more difficult to seek and obtain asylum and increased pressure on the Mexican government to contain unauthorized migration from countries to the south.²⁶ Perhaps as a result, apprehensions at the U.S.-Mexico border fell in the second half of 2019 and early 2020. Once the COVID-19 pandemic hit, the administration issued an order in March 2020 mandating the rapid expulsion of most migrants arriving at U.S. borders without authorization to enter—without formal removal orders or opportunities to apply for asylum.²⁷ This order, combined with mobility restrictions throughout the region, have led to further reductions in Central American arrivals. However, in the fall of 2020, the number of apprehensions of Mexican unauthorized migrants by U.S. authorities rebounded to levels not seen since before the 2008–09 recession.²⁸ The new policy of expelling migrants rapidly to Mexico, without a period in U.S. custody, has facilitated multiple entry attempts, thereby increasing overall apprehensions.²⁹

Other pandemic-related policy changes may affect the size of the unauthorized immigrant population by reducing the number of visitors admitted temporarily to the United States who later overstay their visas. In March 2020, U.S. consulates and embassies abroad temporarily closed for in-person services, limiting legal immigration to the United States, and in June 2020, the Trump administration banned the admission of several types of temporary workers. These policy changes, combined with reduced global mobility and high U.S. unemployment, resulted in a 54-percent reduction in temporary visa issuances abroad in fiscal year 2020 compared to the prior year.³⁰

Many of these trends could change once a Biden administration takes charge, if it chooses a different approach to border enforcement, asylum policies and procedures, and other elements of the U.S. immigration system. A changed approach to managing the spread of the coronavirus and the potential introduction of successful vaccines could also change the course of the pandemic and help speed economic recovery. All these factors will shape the future number and characteristics of unauthorized immigrants in the United States, from those who arrive without authorization or overstay a visa, to those who choose to return or are deported to their origin countries, to which immigrants qualify for temporary protections or a path to legal status.

Endnotes

- 1 Robert Warren and Jeffrey S. Passel, "A Count of the Uncountable: Estimates of Undocumented Aliens Counted in the 1980 United States Census," *Demography* 24, no. 3 (1987): 375–93.
- 2 Estimates by the Migration Policy Institute (MPI) indicate that 46 percent of all immigrants from Latin America were unauthorized immigrants in 2007, just before the recession hit. That share fell to 42 percent by 2009. For a discussion of the impact of the recession on Latin American immigrants see Demetrios G. Papademetriou, Madeleine Sumption, and Aaron Terrazas, *Migration and Immigrants Two Years after the Financial Collapse: Where Do We Stand?* (Washington, DC: MPI, 2010), 30.
- 3 Randy Capps et al., *Revving Up the Deportation Machinery: Enforcement under Trump and the Pushback* (Washington, DC: MPI, 2018), 38.
- 4 Deportations from the U.S. interior fell to about 100,000 in fiscal year (FY) 2014 and less than 100,000 annually in FY 2015 through FY 2017. See Capps et al., *Revving Up the Deportation Machinery*, 37; U.S. Immigration and Customs Enforcement (ICE), *Fiscal Year 2017 ICE Enforcement and Removal Operations Report* (Washington, DC: ICE, n.d.), 12.
- 5 Aaron Terrazas, Demetrios G. Papademetriou, and Marc R. Rosenblum, *Evolving Demographic and Human-Capital Trends in Mexico and Central America and Their Implications for Regional Migration* (Washington, DC: MPI, 2011).
- 6 Randy Capps et al., *From Control to Crisis: Changing Trends and Policies Reshaping U.S.-Mexico Border Enforcement* (Washington, DC: MPI, 2019).
- 7 Robert Warren, "U.S. Undocumented Population Continued to Fall from 2016 to 2017 and Visa Overstays Significantly Exceeded Illegal Crossings for the Seventh Consecutive Year," *Journal on Migration and Human Security* 7, no. 1 (2019): 19–22.
- 8 The 2018 American Community Survey (ACS) recorded a total immigrant population of 44.9 million, but the ACS undercounts both legal and unauthorized immigrants. MPI estimates assume an undercount of about 6 percent among the total foreign-born population, with most of this undercount occurring among unauthorized immigrants.
- 9 The 2007 ACS recorded a total immigrant population of 37.9 million, but MPI estimates that the true population was 40.6 million due to the ACS undercount of immigrants.
- 10 The U.S. Department of Homeland Security (DHS), Office of Immigration Statistics (OIS) has estimated the number of lawful permanent residents (LPRs) at 13.4 million in FY 2018; this includes 1.2 million who arrived before 1980 and 12.2 million who arrived after 1980. For FY 2019, the agency's estimated total was 13.6 million. Calendar year 2018—the time period of this fact sheet's analysis—overlaps those two fiscal years. See Bryan Baker, *Estimates of the Lawful Permanent Resident Population in the United States and the Subpopulation Eligible to Naturalize: 2015-2019* (Washington, DC: DHS, OIS, 2019), 2; Nancy Rytina, *Estimates of the Legal Permanent Resident Population in 2007* (Washington, DC: DHS, OIS, 2009).
- 11 DHS, OIS, "Table 1. Persons Obtaining Lawful Permanent Resident Status: Fiscal Years 1820 to 2019," *2019 Yearbook of Immigration Statistics*, updated October 27, 2020.
- 12 DHS has estimated the number of nonimmigrants at 2.3 million in FY 2016; no later estimate is available. See Bryan Baker, *Nonimmigrants Residing in the United States: Fiscal Year 2016* (Washington, DC: DHS, OIS, 2018).
- 13 DHS, "Asylum Application, Interview, and Employment Authorization for Applicants," *Federal Register* 85, no. 124 (June 26, 2020): 38532–628.
- 14 The number of Deferred Action for Childhood Arrivals (DACA) recipients is as of June 30, 2020. See U.S. Citizenship and Immigration Services (USCIS), "Approximate Active DACA Recipients: As of June 30, 2020" (data table, November 16, 2020).
- 15 The Trump administration terminated DACA on September 5, 2017, but the federal courts enjoined the termination. The Supreme Court ruled in June 2020 that the Trump administration did not adequately justify its decision to terminate the program. The administration responded by issuing a new memo re-establishing the program and allowing only immigrants who had previously received DACA to renew it in one-year intervals; it did not allow new applications. However, a federal court judge ruled that Chad Wolf, who signed that memo, was illegally appointed as Acting Secretary of Homeland Security, and that therefore his DACA memo should be set aside. On December 4, 2020, that judge ordered the U.S. government to restore DACA to its original form, allowing new applications, two-year DACA grants, and advance parole. See Memorandum from Chad Wolf, Acting Secretary of Homeland Security, to Mark Morgan, Senior Official Performing the Duties of Commissioner, U.S. Customs and Border Protection (CBP); Matthew Albence, Senior Official Performing the Duties of Director, ICE; and Joseph Edlow, Deputy Director of Policy, USCIS, "Reconsideration of the June 15, 2012 Memorandum Entitled 'Exercising Prosecutorial Discretion with Respect to Individuals Who Came to the United States as Children,'" July 28, 2020; *Martin Jonathan Batalla Vidal, et al. v. Chad Wolf, et al.*, 16-cv-04756-NGG-VMS and *State of New York, et al. v. Donald Trump et al.*, 17-CV-5228-NGG-VMS (U.S. District Court Eastern District of New York, Memorandum and Order, December 2020).

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- 17 Doris Meissner and Michelle Mittelstadt, *At the Starting Gate: The Incoming Biden Administration's Immigration Plans* (Washington, DC: MPI, 2020); Biden campaign, "The Biden Plan for Securing Our Values as a Nation of Immigrants," accessed December 3, 2020.
- 18 Randy Capps, Michael Fix, and Jie Zong, *A Profile of U.S. Children with Unauthorized Immigrant Parents* (Washington, DC: MPI, 2016).
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- 23 Jessica Bolter, *Legalization Options for the Unauthorized Immigrant Population* (Washington, DC: MPI, forthcoming); Donald Kerwin, Mike Nicholson, Daniela Alulema, and Robert Warren, *U.S. Foreign-Born Essential Workers by Status and State, and the Global Pandemic* (New York: Center for Migration Studies, 2020); Nicole Prchal Svajlenka, *Protecting Undocumented Workers on the Pandemic's Front Lines Immigrants Are Essential to America's Recovery* (Washington, DC: Center for American Progress, 2020).
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- 27 Pierce and Bolter, *Dismantling and Reconstructing the U.S. Immigration System*, 13.
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Restoration of Rights Project

50-STATE COMPARISONS

Expungement, Sealing & ▼

SELECT A JURISDICTION



50-State Comparison: Expungement, Sealing & Other Record Relief

Contents

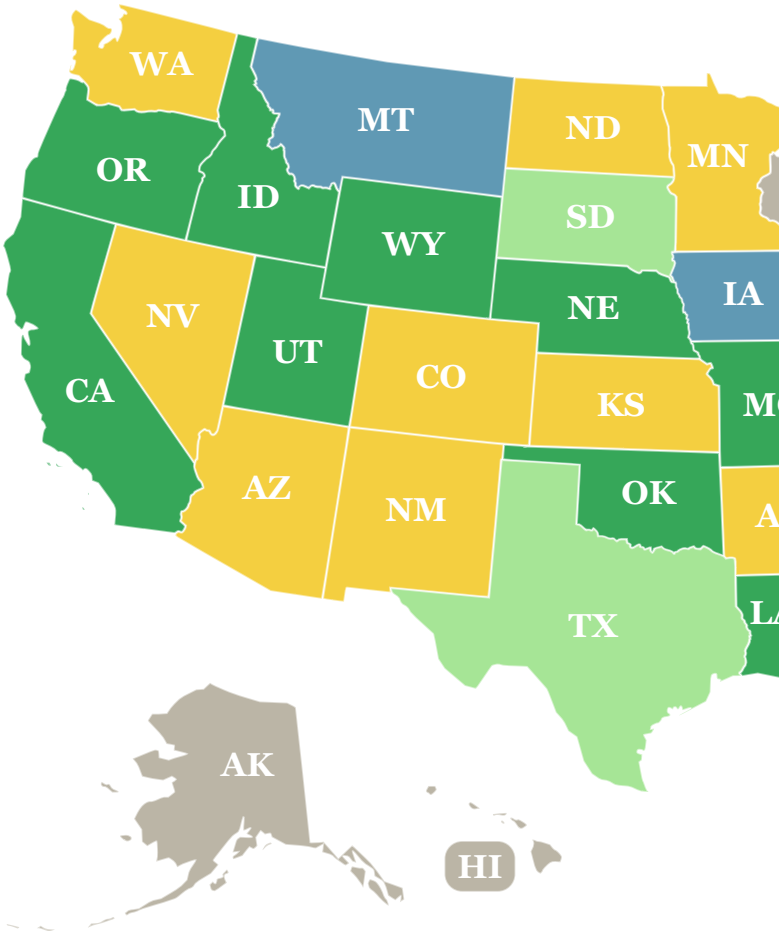
1. Authority for expunging, sealing, or setting aside convictions
2. Automatic record clearing
3. Process for expunging or sealing adult non-conviction records
4. Judicial certificates of relief
5. State-by-state information

- Section 1 categorizes jurisdictions by the availability of relief for convictions.
- Section 2 categorizes jurisdictions with automatic record clearing laws.
- Section 3 categorizes jurisdictions by the relief process for non-convictions.
- Section 4 lists jurisdictions with judicial certificates of relief.
- Section 5 provides state-by-state summaries of record relief law, with links to more detailed analysis and legal citations.

1. Authority for expunging, sealing, or setting aside convictions

Updated: March 2022

Note: Even if misdemeanor and/or felony relief is generally available, various offenses are generally ineligible. Conversely, states categorized as having no court sealing or set-aside may make relief available to limited categories of convictions (e.g., youthful drug convictions, convictions of human trafficking victims) and nearly all authorize sealing of at least some non-conviction records.



Broader felony & misdemeanor relief (14)	Limited felony & misdemeanor relief (23)	Misdemeanors & pardoned felonies (5)	Misdemeanor relief (3, D.C.)	No general sealing or set- aside ⁺ (5, federal)
Arizona [^]	California [*]	Alabama	D.C. ^{***}	Federal
Arkansas	Connecticut ^{**}	Georgia	Iowa	Alaska
Colorado	Delaware	Pennsylvania	Montana	Florida
Illinois	Idaho ^{**}	South Dakota	South Carolina	Hawaii
Indiana	Kentucky	Texas		Maine
Kansas	Louisiana			Wisconsin
Massachusetts	Maryland			

Michigan	Mississippi	
Minnesota	Missouri	
Nevada	Nebraska**	
New Hampshire	New Jersey	
New Mexico	New York	
North Dakota	North Carolina	
Washington	Ohio	
	Oklahoma	
	Oregon	
	Rhode Island	
	Tennessee	
	Utah	
	Vermont	
	Virginia**	
	West Virginia	
	Wyoming	

* In **California**, effective August 1, 2022, the court records of set-aside convictions will be sealed.

** In **Connecticut** and **Nebraska**, pardoned convictions are eligible for record-clearing (erasure in CT; sealing in NE). Connecticut also has a new automatic record relief law, applicable to certain felonies and most misdemeanors, effective 2023. **Idaho** and **Nebraska** also have set-aside authorities for certain felonies and misdemeanors (these are the only two states remaining with a traditional set-aside authority and no general record-sealing authority).

*** In **D.C.**, the only felony offense eligible for relief is a felony failure to appear.

+ Some of these jurisdictions have narrow specialized authorities for expunging, sealing, or setting aside convictions.

++ In **Virginia**, new sealing legislation, enacted in April 2021, will be effective in 2025 or earlier. See **HB 2113** (2021).

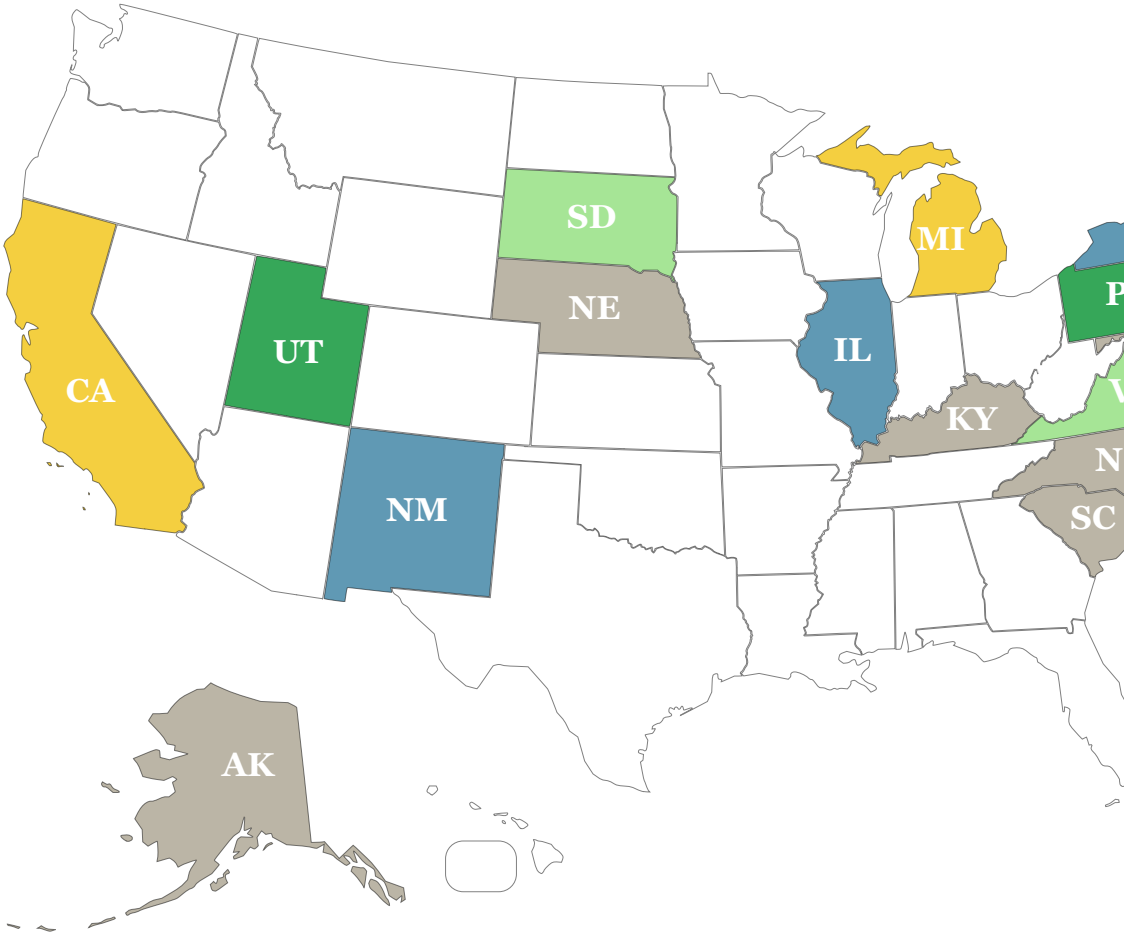
^ **Arizona**'s first general authority to seal misdemeanor and felony conviction records was enacted in 2021, and is effective in 2023. Until then, its only record relief is a broad set-aside authority. Also, effective July 2, 2021, courts must, upon petition, expunge certain marijuana possession, consumption, transportation, and cultivation offenses.

2. Automatic record clearing

Laws authorizing automatic expungement, sealing, or confidentiality of adult criminal records

Updated: November 2021

Note: A number of these laws have been enacted recently but have not yet been implemented or become effective. “Misdemeanors” and “felonies” refers to convictions. Although not noted in the chart, a number of laws covering misdemeanor and/or felony convictions also cover infractions and/or violations. Finally this chart does not cover laws sealing juvenile records.



A range of non-convictions, misdemeanors & certain felonies (5)	A range of non-convictions & misdemeanors (2)	Certain minor misdemeanors (2)	Certain marijuana-related records (8)	A range of non-convictions+ (8)
--	--	---------------------------------------	--	--

California [*]	Oklahoma [^]	South Dakota	California [*]	Alaska
Connecticut [*]	Pennsylvania	Virginia [*]	Connecticut [*]	Indiana
Delaware	Utah		Illinois	Kentucky
Michigan			New Jersey [*]	Maryland
New Jersey [*]			New Mexico	Massachusetts
			New York [^]	Nebraska
			Vermont ^{**}	New Hampshire
			Virginia [*]	North Carolina
				South Carolina

⁺ In addition, four states (GA, FL, ME, MT) have authorized automatic sealing, expungement, or confidentiality for non-conviction records held by state criminal justice agencies, but not the corresponding court records. More details on non-conviction record relief are in the Chart #3 of this section.

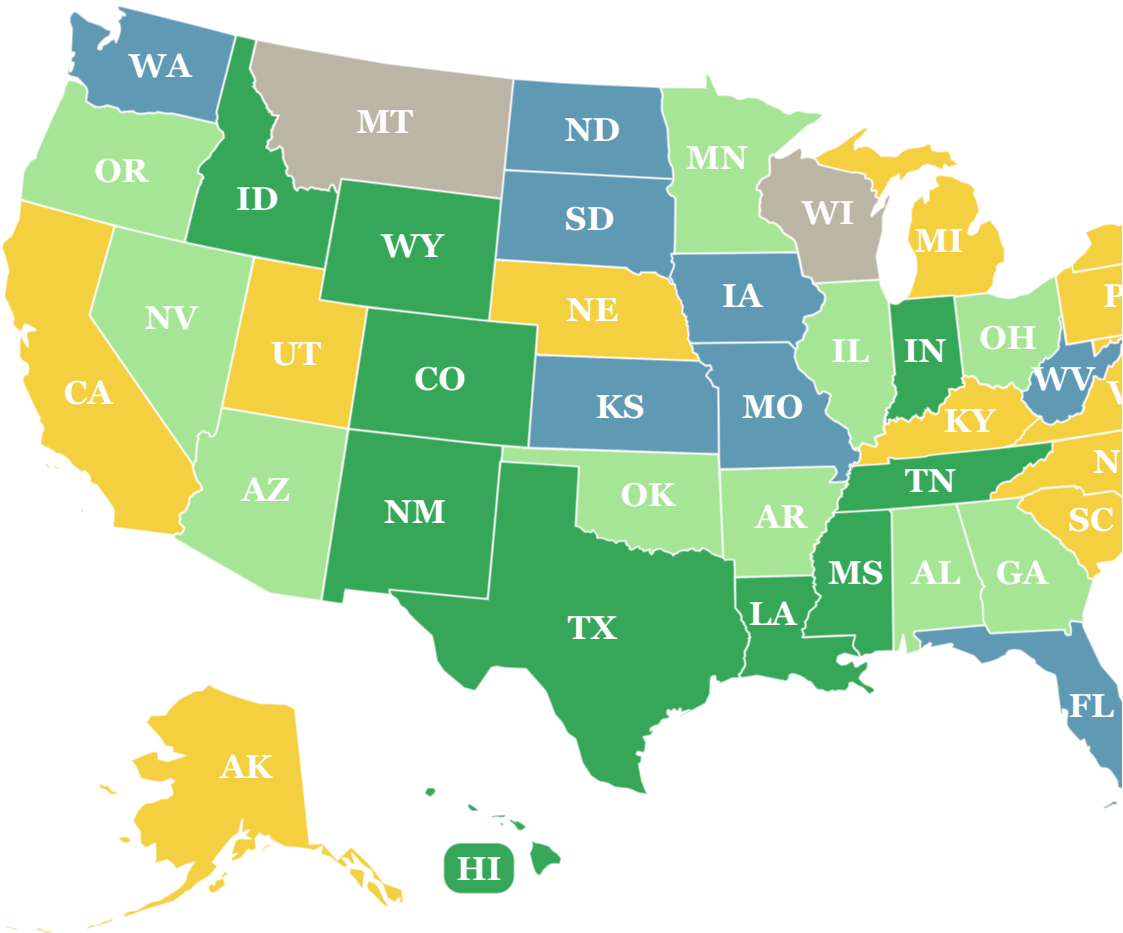
^{*} **California, Connecticut, New Jersey, and Virginia** have general automatic record clearing laws and have also enacted laws providing for marijuana-specific automatic record clearing. In the case of CA and NJ, a range of marijuana misdemeanor and felony offenses are covered. In the case of CT, certain marijuana misdemeanor offenses are covered. **VA** has also authorized automatic relief for certain marijuana-related misdemeanor offenses and certain non-convictions, although none of Virginia's automatic relief authorities are scheduled to go into effect before 2025. More details on marijuana record relief are [here](#).

^{**} **Vermont** has also authorized automatic relief for non-convictions and certain motor vehicle-related violations.

[^] **New York and Oklahoma** also provide for the automatic sealing of non-convictions.

3. Process for expunging or sealing adult non-conviction records

Updated: March 2022



Automatic relief ⁺ (19)	Mandatory relief upon request (9)	Discretionary relief (less burdensome/restrictive) (11)	Discretionary relief (more burdensome/restrictive)* (8, D.C.)	n/a (3, federal)	
Alaska	Hawaii	Alabama	D.C.	Federal	
California	Idaho	Arizona	Florida@@	Maine@@	
Colorado	Louisiana	Arkansas	Iowa	Montana@@	
Connecticut	Mississippi	Georgia	Kansas	Wisconsin@@	
Delaware**	New Mexico	Illinois	Missouri		
Indiana	Rhode Island	Massachusetts***	North Dakota		

Kentucky	Tennessee	Minnesota [#]	South Dakota
Maryland	Texas	Nevada	Washington
Michigan	Wyoming	Ohio	West Virginia [@]
Nebraska		Oregon	
New Hampshire			
New Jersey			
New York			
North Carolina			
Oklahoma			
Pennsylvania			
South Carolina [^]			
Utah			
Vermont			
Virginia ^{**}			

⁺ These automatic relief mechanisms are not always comprehensive: they may be prospective only or exclude certain dispositions or categories of offenses. In several states, uncharged arrests are not covered, and require the filing of a court petition to obtain relief. In some states, deferred dispositions are not covered. Some of these laws have not yet been implemented. See state profiles for more details.

[^] In **South Carolina**, relief is only automatic in Magistrate or Municipal Court.

^{*} Often, more burdensome procedural requirements apply, such as waiting periods, document collection, service of process, filing fees, contested hearings, discretionary review. In addition, a number of these states make certain non-convictions wholly ineligible for relief because of the person's past record, the nature of the charges, or the type of disposition.

^{**} Non-conviction records will be sealed automatically in **Delaware** and **Virginia** when those states' "clean slate" laws go into effect in 2024 and 2025, respectively.

^{***} In **Massachusetts**, records for certain non-conviction dispositions are sealed automatically.

[@] **Oklahoma** and **West Virginia** require that the person never have been convicted of a felony.

^{@@} State criminal justice records, but not court records, are subject to a sealing, expungement, or confidentiality process (automatic in **Maine** and **Montana**; by

request in **Wisconsin**). **Florida** has an automatic process for state criminal justice records and a petition-based process for court records.

In **Minnesota**, relief is mandatory if the individual has not been convicted of a felony or gross misdemeanor in the 10 years since the disposition of all pending criminal actions in favor of the arrested person; and either no charges were filed or all charges were dismissed prior to a determination of probable cause.

4. Judicial certificates of relief

Updated: December 2021

Judicial certificates of relief (14)	
Arizona	
California	
Colorado	
Connecticut	
Illinois	
New Jersey	
New Mexico	
New York	
North Carolina	
Ohio	
Rhode Island	
Tennessee	
Vermont	
Washington	

5. State-by-state information

Federal

There is no general authority to expunge or seal any federal conviction, and federal courts have very limited inherent authority to grant record relief. Deferred adjudication is authorized for first misdemeanor drug possession, with expungement if the defendant was under age 21 at time of offense.

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Alabama

Record relief: In 2021, Alabama enacted its first authority for expunging adult convictions, extended relief to non-violent misdemeanors and pardoned felonies, with exceptions for violent and sexual offenses, and any offense of moral turpitude under the disenfranchisement statute. Victims of human trafficking may petition the court to expunge convictions of misdemeanors and some felonies, including certain violent felonies, that are related to trafficking. Expungement is authorized for non-convictions: where a misdemeanor or non-violent felony charge did not result in conviction, including where a charge was dismissed after successful completion of various diversion programs (drug, mental health and veterans' court), or where any felony charge resulted in acquittal. Juvenile records may be sealed on petition two years after final discharge or other final order, and destroyed five years after the age of majority, if the person has no prior or subsequent record.

Judicial certificate: An individual who is legally barred from obtaining a specific occupational license due to a conviction may apply to the court for an "Order for Limited Relief" to permit discretionary consideration on the merits.

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Alaska

There is no general authority to seal or expunge adult conviction or non-conviction records, but non-conviction records are generally confidential. In most cases the court may defer sentencing looking toward set-aside of conviction upon successful completion of probation, except for serious violent or sexual offenses. No affirmative showing or finding of rehabilitation need be made before a set-aside is granted; rather, a set-aside should be granted as a matter of right unless some specific reason for denial is established. For less serious offenses, courts may also defer judgment looking toward dismissal of charges, and no conviction results. Most non-conviction records may not be released to the public, but sealing is authorized only in cases of mistaken identity or false accusation. Most juvenile records are confidential and are sealed within 30 days of the person's 18th birthday or after completion of sentence whichever is later, or after a 5-year waiting period if charged as an adult.

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Arizona

Record relief: Until 2021 there was no general authority to seal or expunge adult conviction or non-conviction records. Effective December 31, 2022, misdemeanor and most felony convictions may be sealed on petition after waiting periods ranging from two to 10 years (with an additional five years for a prior felony conviction). Non-conviction records may also be sealed thirty days after the petition is filed. A hearing is required only upon objection by the prosecutor or victim. In addition, convictions for

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all but violent and sex offenses may be set-aside and charges dismissed upon discharge, but no sealing or expungement results. Set-aside relieves collateral consequences, and restores firearms rights for non-serious felonies, but conviction must be disclosed and serves as a predicate. Effective July 2, 2021, courts must, upon petition, expunge arrests, charges, and convictions for certain marijuana offenses. The law also authorizes several diversionary dispositions. Juvenile adjudications may be set aside upon reaching 18 years of age and discharge from sentence, except for serious violent offenses, but they serve as predicate offense; juvenile records may be destroyed under some circumstances.

Judicial certificates: In 2021, Arizona authorized courts to issue a Certificate to Second Chance to a person whose conviction has been set-aside. Waiting periods apply for class 2-6 felonies. Class 1 felonies are ineligible.

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Arkansas

Convictions for Class C and Class D felonies and certain drug offenses are eligible for sealing after completion of sentence and payment of court costs; misdemeanors and infractions are eligible for sealing after completion of sentence. For violent felonies there is a 5-year waiting period and a prior felony conviction is disqualifying; for certain serious misdemeanors there is a 60-day waiting period. Class A and B felonies and sexual offenses are ineligible for sealing, as are multiple felonies for violent offenders and motor vehicle violations committed by a holder of a commercial driver's license. A hearing is mandatory in all felony cases, and only if the prosecutor objects in misdemeanor cases. The court "may seal" the record of eligible felonies, "if the court finds by clear and convincing evidence that doing so would further the interests of justice," considering certain factors related to the likelihood of recidivism. For other eligible offenses, there is a presumption in favor of sealing. Sealing does not restore the right to carry a firearm and may be used as a predicate and to enhance a subsequent sentence. Most pardoned offenses are sealed immediately, but certain serious offenses may not be sealed even if pardoned. Human trafficking victims may petition for sealing of prostitution offenses at any time.

Arrest records may be sealed on petition if no charges are filed within one year, and other non-conviction records (including deferred dispositions) may be sealed at disposition. The court "shall seal" non-conviction records, unless it finds there is a public safety risk. No hearing is called for in non-conviction cases. Expungement (destruction) of records is available for certain drug court graduates, and automatic for juveniles upon turning 21 (or earlier, subject to the court's discretion).

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California

Record relief: Courts must or may dismiss charges and set aside convictions for several categories of infractions, misdemeanors, and minor felonies. While set-aside relief is colloquially known as “expungement,” until recently it did not limit access to the record, but restored rights and removed disabilities, and provided certain benefits related to employment and licensing. Effective November 18, 2019, the state repository may not disclose such records for most inquiries relating to employment or licensing; and, effective Aug. 1, 2022, courts may not disclose such records except to criminal justice agencies. Nonetheless, a conviction that has been dismissed or set aside may be used as a predicate offense and must be disclosed in certain contexts. A victim of human trafficking may seek to have arrests and convictions for any non-violent offense vacated and sealed. Sealing is automatic for decriminalized and certain other marijuana convictions, and deferred adjudication available for first drug offenses. Effective July 1, 2022, a process for automatic record relief will take effect for many arrests and convictions occurring on or after January 1, 1973.

Most non-conviction records may be sealed upon disposition, and uncharged arrests may be sealed when the limitations period has run. Juvenile records are generally unavailable to the public except for those related to certain more serious offenses; most juvenile adjudications may be sealed after five years (if found to be rehabilitated and no subsequent convictions of felony or crime of moral turpitude); juvenile records not resulting in adjudication are eligible for sealing upon disposition.

Judicial certificates: Certificates of Rehabilitation (COR) are available to people with state offenses from courts in the county of their residence or the court of conviction after conviction-free waiting period of 7-10 years, and satisfaction of other statutory criteria. A COR relieves certain licensing restrictions and serves as a first step in the pardon process.

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Colorado

Record relief: All but the most serious felonies are eligible for sealing after graduated waiting periods: one year after completion of sentence for petty offenses, three years for misdemeanors and lower-level felonies, and five years for other eligible felonies. All court-ordered fees must have been paid. If a person has multiple convictions, records may only be sealed if all offenses are eligible (the DA or court can authorize sealing for otherwise ineligible misdemeanors). Minor drug felonies may be vacated and reduced to misdemeanors, making many of them eligible for sealing. Victims of human trafficking may petition to seal any misdemeanor resulting from trafficking. In these cases, the court must apply a balancing test to determine whether sealing is warranted. For more serious felonies, the court must hold a hearing; for other offenses, the court

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need not hold a hearing unless the prosecutor or victim objects. Decriminalized marijuana misdemeanors must be sealed upon petition.

Uncharged arrests must be sealed automatically after one year, and the following non-convictions must be sealed by the court at disposition, or if it does not do so, any time thereafter upon written request: cases where all charges are dismissed or acquitted; and cases where a diversion or deferred sentence is successfully completed. Expungement is mandatory for records of juvenile adjudications for petty offenses and misdemeanors or where no adjudication results; expungement is discretionary for low-level felonies after an eligibility waiting period, which is extended for people with repeat offenses.

Judicial certificates: At the time of conviction or at any time thereafter, upon the request of the defendant or upon the court's own motion, a court may enter an "order of collateral relief" in the criminal case to override specific collateral consequences as identified by the defendant, including employment, housing and licensing bars. The law contains no standards to guide subsequent discretionary decision-making. All but violent offenses and offenses requiring registration are eligible. Juvenile adjudications are also eligible. An order of collateral relief may be enlarged at any time upon petition.

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Connecticut

Record Relief: Until recently, pardons were the primary vehicle for record relief for convictions in Connecticut, and pardoned convictions are granted generously by an appointed administrative board, then "erased" (expunged). Upon the subject's request, records that have been erased are physically destroyed after three years. Records of individuals under the age of 21 who were adjudicated as a "youthful offender," are automatically erased upon reaching age 21, if they had no subsequent felony convictions. Several programs for diversion or deferred adjudication may also result in erasure, and victims of human trafficking may seek vacatur of convictions (and presumably erasure). Where the erasure statute applies, a court may proceed on its own motion to dismiss charges, and records will automatically be erased.

In June 2021, Connecticut enacted a "Clean Slate" law, effective January 1, 2023, which establishes a process to automatically erase records of most misdemeanor convictions and certain less serious felony convictions entered after January 1, 2000, after a specified period following the person's most recent conviction for a crime (except for certain drug possession offenses). A person's criminal record must be erased in the event of acquittal or dismissal, and the state and its agencies may not use non-conviction records in connection with employment or licensure. Partial sealing is available for charges dismissed in a conviction case, but only for electronic databases. Juveniles adjudicated delinquent, who are at least 18 years old, may petition for

erasure of their records after two years for less serious offenses, and four years for more serious ones.

Certificates of Relief: The pardon board or court supervisory agency may issue certificates of rehabilitation in cases that do not yet qualify for a full pardon, to give relief from legal barriers to employment and/or licensure. They may be sought at any time after sentencing for the purpose of promoting rehabilitation. Individuals convicted under federal law or the law of another state are eligible for a COR if they reside or do business in the state.

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Delaware

Per a 2021 law, records authorized for mandatory expungement must be automatically expunged effective in August 2024. These include most misdemeanor convictions, as well as cases “terminated in favor of the accused,” including acquittals, dismissals after probation before judgment, dismissals of all charges, and arrests that are not charged within 1 year of the arrest. In 2021 the category of mandatory expurgements was expanded to include more misdemeanors and a handful of minor felonies. Until the automatic system is operational, records may only be expunged on application to the State Bureau of Investigation after waiting periods of three years after conviction (for violations), five years (for less serious misdemeanors, including decriminalized marijuana offenses but excluding domestic violence and other offenses), and ten years (for a handful of less serious felonies). In all but the least serious cases, the person must have no prior or subsequent convictions. Additional convictions may be expunged upon petition to the court, if the person has no prior or subsequent disqualifying convictions, after waiting periods ranging from three to seven years. Pardoned convictions may also be expunged on petition. Victims of human trafficking convicted of any nonviolent crime or adjudicated delinquent may petition for pardon or vacatur, with expungement to follow in either case. Juvenile records may be expunged under a bifurcated scheme analogous to the one applicable to criminal records, with expungement mandatory in some cases and discretionary in others, with certain “prohibitions to expungement.” Expungement means that all law-enforcement agency records and court records are “destroyed, segregated, or placed in the custody of the State Bureau of Identification,” and are not released except to law enforcement and the courts.

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District of Columbia

Sealing is available for selected “eligible” misdemeanor convictions, one felony conviction (failure to appear), non-convictions, and certain specialized authorities for

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decriminalized conduct, actual innocence cases, and victims of human trafficking. Except for the specialized authorities, applicable waiting periods for all arrests and convictions must be satisfied before sealing, unless a person waives the right to seal records not yet eligible.

For convictions, there is an 8-year waiting period after completion of sentence, during which the petitioner may not have a “disqualifying” arrest or conviction (any subsequent conviction and any pending charge in any jurisdiction, other than for a traffic offense, disorderly conduct, or an offense punishable by a fine only, except an ineligible misdemeanor). Records of arrests or charges not resulting in conviction may be sealed after two years if the arrest or charges were for an “eligible” misdemeanor, and four years for any other offense (three years if the case was terminated before prosecution), unless the person has had any “disqualifying” arrests or convictions, which extends the waiting period to five years (misdemeanors) and 10 years (felonies), or make sealing unavailable in deferred sentencing cases. The court must determine whether sealing is “in the interests of justice,” weighing certain required and discretionary factors.

At any time, a person may seek sealing on grounds of actual innocence, decriminalized conduct, or, for all but specified violent and sexual offenses, conduct resulting from having been a victim of trafficking. If a record of arrest or conviction is sealed, its subject may deny it in most situations, except that access is authorized for certain law enforcement, court, employment, and licensing purposes. Juvenile records may be sealed after two years once the person is 18, if there have been no subsequent convictions.

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Florida

There is no statutory authority to seal or expunge adult convictions, including pardoned convictions, with the limited exception of convictions of victims of human trafficking.

Courts have discretion to order sealing of some non-conviction records and expungement of others, if the person has no prior convictions and no prior expungements, unless the charges arose under a long list of crimes of violence or sexual misconduct. Records of “withheld” cases (deferred adjudication) may be sealed if the charges are otherwise eligible, and the person has no prior convictions or expungements. Notwithstanding other eligibility requirements, a person found to have acted in lawful self-defense may have the record expunged. A 2019 law authorized the creation of an automated process for sealing eligible non-conviction records.

Expungement results in destruction of the record, while sealing permits limited law enforcement, employment, and licensing access. Before petitioning a court to expunge a criminal record, a person must apply to the department of law enforcement for a

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certificate of eligibility. Sealing is available to victims of human trafficking if their offense or alleged offense was related to the trafficking. Juvenile records are generally confidential except for serious offenses, and expungement is available for non-judicial records of a first-offense non-violent misdemeanor, after successful completion of diversion. Expungement for more serious juvenile adjudications is available once the person reaches the age of 26.

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Georgia

In 2020, Georgia extended its law on administrative record restriction to make adult misdemeanor convictions and pardoned convictions eligible for administrative relief followed by sealing of court records, pursuant to a petition process after a short conviction-free waiting period with no pending charges. Certain misdemeanors and felonies involving “serious violence” and sexual offenses would not be eligible. Under preexisting law, record restriction and sealing are also available on petition for first-time drug convictions and dispositions in “accountability courts.” Administrative non-conviction records are automatically restricted, and court records may be sealed by petition. The court must find in each case that “the harm otherwise resulting to the privacy of the individual clearly outweighs the public interest.” Felony charges dismissed pursuant to a plea to a misdemeanor may also be restricted after four years. A discharge without adjudication after the completion of probation for first felony offenders “completely exonerates” the defendant, seals the court record, and prohibits use of the record to deny employment except in limited cases (e.g., working with vulnerable populations). Juvenile records may be sealed upon petition to the court after a two-year waiting period and a finding of rehabilitation, and juvenile victims of human trafficking may petition for sealing of sex offenses related to the trafficking.

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Hawaii

There is no statutory authority to seal or expunge adult convictions, with two exceptions: convictions for prostitution and related offenses may be vacated and sealed by the court after a three-year waiting period if there are no subsequent convictions; convictions for possession of three ounces or less of marijuana (decriminalized) may be expunged. There is no authority to expunge or seal pardoned convictions. Deferred adjudication is available for nonviolent first-time offenses, and the record may be expunged after one year upon application to the court and attorney general. Deferred adjudication is also an option for those who are convicted of first-time drug possession, with expungement available if the crime was committed under the age of 20.

Non-conviction information is not publicly accessible except to criminal justice agencies and agencies authorized by law; upon application by the subject, the attorney general will expunge a record of arrest if no conviction resulted, and the individual may also apply to the court for expungement of court records. Juvenile records are confidential; courts may expunge juvenile records if no charges were brought, or the individual was held not responsible.

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Idaho

There is no statutory authority to seal or expunge adult convictions, including pardoned convictions, with one exception: victims of human trafficking convicted of prostitution may petition “to vacate such conviction and/or to expunge the criminal history records.” Any defendant who was convicted of a misdemeanor or felony and not sentenced to a prison term, or whose sentence was deferred, may apply to the sentencing court upon discharge to have the sentence set aside and the charges dismissed, or for a reduction of the conviction from a felony to a misdemeanor. In addition any person convicted of a felony and sentenced to a prison term may have the sentence reduced to a misdemeanor five years after discharge, or earlier if the prosecutor so stipulates. The defendant must not have been convicted of any further felony or have charges pending, and the court must find “good cause.” Only treason, murder and sex offenses are not eligible. The dismissal “shall have the effect of restoring the defendant to his civil rights,” including firearms rights, but there is no authority to expunge or seal the record.

Other non-conviction records may be sealed upon request to the state police after one year. Juvenile adjudications, except for serious offenses, may be expunged after a waiting period (five years for felonies, one year for misdemeanors). After a hearing, the court shall grant expungement petition if it finds the person has been held accountable, is a contributing member of society, and expungement will not risk public safety.

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Illinois

Record relief: Most misdemeanor and felony convictions are eligible for sealing upon petition three years after termination of the person’s most recent sentence, if they have no intervening findings of guilt. Eligibility does not depend upon payment of court debt, and restitution may be reduced to a civil judgment. Ineligible offenses include DUI, sex crimes, animal care crimes, and domestic battery. Non-conviction records may be expunged (as opposed to sealed) as may those that have been pardoned (if the pardon document so authorizes). Immediate sealing is available for victims of human

trafficking for any offense related to the trafficking. Sealed records of felonies may be released pursuant to state or federal laws requiring a background check.

Deferred adjudication is available for first-time nonviolent felony offenses, with expungement five years after successful completion of probation. Non-conviction records may be sealed on petition at disposition, and may be expunged if the person has no prior convictions. In addition, marijuana arrests and convictions may be expunged pursuant to a tiered procedure involving automatic relief for non-conviction records and minor possession offenses, and relief by petition for more serious offense. Most juvenile records are automatically expunged after a waiting period that varies from zero to two years, except that those adjudicated for more serious felonies must petition for expungement after two years. All juvenile records which have not been expunged are sealed.

Judicial certificates: Courts are authorized to issue two types of certificates. A Certificate of Relief from Disabilities addresses licensing restrictions and creates an enforceable “presumption of rehabilitation” that must be given effect by a licensing board. A Certificate of Good Conduct lifts mandatory employment, licensing and housing bars, and evidences the individual’s rehabilitation. Certificates may be issued by the sentencing court, either at the time of sentencing or upon satisfactory completion of sentence, or by the circuit court to those convicted of federal and out-of-state offenses, after a brief waiting period.

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Indiana

Judicial expungement is mandatory, upon petition to the court, for non-conviction records, misdemeanors, and eligible less-serious felonies; expungement is discretionary for more serious felonies. Eligibility waiting periods range from one year for non-conviction records to ten years following completion of sentence for the most serious felonies. After expungement, non-conviction records, and records of misdemeanors and minor felonies are sealed; more serious felonies remain public but are “marked as expunged.” Convictions of victims of human trafficking may be vacated and expunged as a non-conviction record, and pardoned convictions are automatically expunged and sealed. Certain offenses are ineligible for expungement, and anyone convicted of such offenses is not eligible for expungement of any otherwise eligible crimes (such offenses include sexual or violent offenses, misconduct in office, or two or more separate felonies involving unlawful use of a deadly weapon). Courts may expunge juvenile records at any time upon petition; courts must expunge automatically upon reaching age 19 (ex. for felonies).

Expungement may be granted without a hearing unless the prosecutor objects; all fines and fees must be paid and no charges may be pending. Where expungement is sought

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for a conviction, a petitioner may seek to expunge multiple convictions in multiple courts, but all petitions must be filed within one year; after that year, a person may not file another petition in their lifetime. Once records are expunged, only a criminal justice agency may access them without a court order. Expungement restores rights (including firearms to all but serious violent offenders), limits employer/licensing inquiry, protects against discrimination, and bars reporting by private background screeners. Administrative sealing of convictions is also available from the state police after 15 years. Deferral or continuance of prosecution is available for a “drug abuser” or “alcoholic” charged with a less serious felony, if they have no more than one prior conviction.

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Iowa

A single misdemeanor conviction may be expunged by the court if at least eight years have passed since conviction and the person has no other convictions or pending criminal charges, has not previously been granted more than one deferred judgment, and has paid all financial obligations ordered by the court, including indigent counsel fees. A lengthy list of ineligible crimes includes weapons offenses, misuse of public office, livestock abuse, and a variety of violent or sexual offenses. A person may be granted only one expungement in a lifetime. There is no statutory authority to seal or expunge felony convictions or pardoned convictions. Deferred adjudication, followed by expungement of records, is available for first offenses; however, it may be used to enhance punishment for a subsequent offense. Records of acquittals and dismissed charges (excluding deferred adjudication) may be expunged after 180 days, but only if all court debt has been paid. Juvenile records are presumptively confidential if they do not involve a forcible felony offense, but forcible felony records may be made confidential upon petition; juvenile records may be sealed upon petition after a two-year waiting period if the juvenile is at least age 18 and has no subsequent offenses.

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Kansas

Expungement of convictions is available upon petition to the court for all but serious violent and sexual offenses, following a waiting period of three to five years after completion of sentence. There is a presumption in favor of expungement if the petitioner has not been convicted of a felony in the past two years, no charges are pending, and the court finds that “the circumstances and behavior of the petitioner warrant the expungement” and expungement is “consistent with the public welfare.” Victims of human trafficking may petition for expungement of prostitution convictions and diversions after one year. A person must be informed at each stage of the criminal

process about the possibility of obtaining expungement, including upon release from prison. After expungement, a person “shall be treated as not having been arrested, convicted or diverted of the crime,” except that the expunged conviction may be considered in a subsequent criminal proceeding.

Prosecutors have authority to enter into diversion agreements promising dismissal of charges in all but the most serious cases, and courts may make rules to offer diversion without statutory limits. Non-conviction records may be expunged on petition if the court finds either that the person was acquitted, or that expungement would be “in the best interests of justice and charges have been dismissed or no charges have been or are likely to be filed.” There is a filing fee of up to \$195 to expunge non-conviction and conviction records. Juvenile records may be expunged after a hearing if the court finds that the person is at least age 23 or two years have passed since final discharge, there have been no subsequent convictions or adjudication, no charges are pending, and the petitioner’s circumstances and behavior warrant expungement.

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Kentucky

Courts are authorized upon petition to vacate specified Class D felony convictions and pardoned convictions, dismiss the charges, and expunge the record five years after completion of sentence, with no intervening convictions and no charges pending. There is a filing fee of \$50 and an “expungement fee” of \$250 that must be paid in full before expungement will be ordered. Expungement of a single misdemeanor conviction (or series of misdemeanors arising from the same incident) is mandatory five years after completion of sentence if there are no intervening convictions or charges pending; expungement of multiple misdemeanors is discretionary. Expungement of prostitution convictions not involving violence is available to victims of human trafficking 60 days after the judgment.

Deferred adjudication (“pretrial diversion”) leading to expungement is available to a person charged with a Class D felony offense (or with court permission Class C felonies) who has had no prior felony convictions within a ten-year period. After March 2020, the court is required to automatically expunge non-conviction records upon disposition in cases of acquittal or dismissal with prejudice; for cases disposed of prior to that time, expungement is mandatory upon petition after 60 days without a hearing. In cases where felony charges have not been indicted after 60 days, expungement is also mandatory upon petition after notice to the district attorney. Dismissals without prejudice are eligible for expungement after a three-year waiting period for felonies, and a one-year period for misdemeanors. Expungement is available for juvenile offenses, excluding sex offenses and violent offenses, after a two-year waiting period;

expungement of juvenile records not resulting in adjudication is automatic at time of disposition.

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Louisiana

Eligible convictions may be expunged upon motion ten years after completion of sentence for felonies and five years for misdemeanors, if there have been no intervening convictions and no pending charges. Specified offenses are ineligible. Persons entitled to “first offender pardons” are eligible for immediate expungement, specifically including drug crimes. Expungement of felonies may be granted only once every 15 years (except for deferred adjudication cases), and misdemeanor expungements only once every five years (except for DUI convictions which must wait 10 years). Expunged records are not publicly available but may be accessed by law enforcement and certain licensing agencies and may serve as predicates.

Expungement is authorized following deferred adjudication for certain noncapital felonies, and other non-conviction records may be expunged “at any time.” A felony arrest that resulted in a misdemeanor conviction may be expunged. Non-adjudication juvenile records may be expunged at age 17; misdemeanor adjudications may be expunged two years after satisfaction of judgement; felony adjudications, excluding certain serious offenses, may be expunged two years after satisfaction of judgement, with no subsequent weapons offenses and no pending charges.

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Maine

There is no statutory authority to seal or expunge adult convictions of non-conviction records. Various non-conviction records held by criminal justice agencies are made confidential, although disclosure may be made to any person who makes a specific inquiry about whether a named individual was arrested or charged “on a specific date.” Pardoned convictions are treated like non-conviction records, except that they may upon petition be deleted from the FBI records ten years after final discharge. These provisions do not apply to court records, which are available to the public. Deferred adjudication is available for less serious offenses. Juvenile records may be sealed upon petition after a three-year waiting period if there are no subsequent adjudications or convictions.

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Maryland

Expungement is authorized for 100 enumerated misdemeanors upon petition 10 years after completion of sentence, and for a handful of felonies (theft, burglary, drug-related) after 15 years, if there have been no subsequent convictions, unless the subsequent conviction becomes eligible. Relief is mandatory unless the prosecutor objects, in which case there must be a hearing to determine whether the person is a risk to public safety, and whether expungement would be in the best interest of justice. Expunged records may be opened only by court order and are destroyed after three years. In addition, “shielding” (sealing) is available for 12 enumerated non-violent misdemeanors after a 3-year waiting period. Expungement is also available for pardoned nonviolent first offenses, nuisance convictions after three years, marijuana possession offenses after four years, and decriminalized conduct. Victims of human trafficking whose prostitution convictions are vacated may also seek expungement.

Arrest records not leading to charges are automatically expunged after 60 days; other non-conviction records may be expunged upon petition three years after disposition or completion of treatment, including charges dismissed following deferred adjudication (“probation before judgment”). Juvenile records may be sealed at any time upon a showing of “good cause,” and must be sealed when the person reaches the age of 21.

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Massachusetts

With certain exceptions, convicted persons are entitled to have their records sealed upon application to the department of probation 7 years after disposition or release from confinement for a felony and 3 years for a misdemeanor, without a conviction in the waiting period. Exceptions include firearms offenses, crimes by public officials, and crimes “against public justice” such as perjury and witness tampering. For sex offenses, the waiting period is 15 years after completion of sentence and removal from registry, unless registered as Level 2 or 3. Pardoned convictions are eligible for immediate sealing. Victims of human trafficking may petition the court to vacate a conviction for prostitution or simple drug possession, with sealing to follow. Records of decriminalized offenses, including marijuana possession, may be sealed immediately. Sealing prohibits use in connection with employment, housing and licensing, but it does not expunge.

Some non-conviction records are eligible for automatic sealing (acquittals and deferred adjudication cases), and some require a judicial finding “that substantial justice would best be served” (nolle prosequi or dismissed charges). Juvenile records must be sealed upon request if 3 years have elapsed, with no adjudication, guilty findings (except some motor vehicle offenses), imprisonment or juvenile custody in the preceding 3 years. Records of nonviolent non-sexual juvenile adjudications are eligible for expungement

(permanent erasure or destruction) after three years for misdemeanors and seven years for felonies.

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Michigan

Effective April 2021, eligibility for set-aside and sealing expands to an unlimited number of misdemeanors and up to three felonies, provided that no more than two convictions for assaultive crimes may be set-aside in a person's lifetime, and not more than one conviction for the same offense if the offense is punishable by more than 10 years in prison. In counting convictions most crimes in the same 24-hour period arising from the same transaction are counted as a single offense. Waiting periods ranging from 3 to 7 years apply. A petitioner must give notice to all interested parties, and the court holds a hearing to consider the person's "circumstances and behavior" since the conviction and to determine whether "setting aside the conviction is consistent with the public welfare." A conviction that has been set aside is sealed by court rule. Charges dismissed pursuant to first offender drug deferred adjudication scheme count as misdemeanors for purposes of applying for set-aside. Felonies subject to a life sentence are ineligible, as are traffic and sex offenses. Victims of human trafficking may have prostitution and related convictions set-aside and sealed. (Prior to April 2021, only one felony conviction was eligible for set-aside upon petition to the convicting court after a five-year waiting period, as long as the person had no more than two misdemeanor convictions. People with no more than two misdemeanor convictions and no felony conviction may petition for set-aside of one or both misdemeanors, also after a five-year waiting period.)

Set-aside and sealing will become automatic in 2023 for an unlimited number of minor misdemeanors seven years after imposition of sentence; and, up to four more serious misdemeanors and up to two felonies eligible for relief under the expanded petition-based standards (see above) would be automatically expunged 7 or 10 years after imposition of sentence or release from imprisonment, respectively, provided that the conditions in the petition-based standards are met.

Records of uncharged arrests must be sealed by the state police repository upon the person's release; the repository must also seal other non-conviction records upon receipt of a court order with final disposition, and courts have a policy of making their own corresponding records nonpublic in such situations. Juveniles may petition the court to set aside up to four adjudications (one of which may be a felony) one year after the last adjudication or release from detention, or upon reaching age 18, whichever is later. Procedures are almost identical to those that apply to adult set-asides. Set-aside and sealing will become automatic in 2023.

Minnesota

Courts may expunge (or seal, a term used interchangeably) misdemeanors and a list of about 50 non-violent felonies, after waiting periods ranging from 2 to 5 years after completion of sentence. A formal petition need not be filed if the prosecutor does not object. In all cases the court must balance the interests of the public and public safety against the disadvantages to the subject. For convictions not on the statutory list, the courts may entertain petitions pursuant to their common law authority, but the statutory procedures and standards apply. Less serious felony convictions may be reduced to misdemeanors, and deferred adjudication is available for first drug offenses. Pardoned convictions cannot be expunged or sealed, but pardoning has the effect of setting-aside the conviction and allows the person to deny the conviction. Expunged records may not be considered in connection with public employment or licensing decisions, and if a business screening service knows that a criminal record has been expunged, or is the subject of a pardon, it must promptly delete the record.

Non-conviction records may be expunged upon request at disposition. Where no charges are filed, arrest records must be destroyed if a person was not convicted of a felony or gross misdemeanor in the prior ten years. Records of juvenile adjudications may be expunged by the court at any time, applying the same balancing test that applies to adult expungements. Juvenile records are generally available only until their subject reaches the age of 28.

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Mississippi

A misdemeanor conviction may be expunged for a “first offender” upon completion of sentence. After a 5-year waiting period, a single felony conviction (defined to include multiple convictions arising from the same operative facts) may be expunged, but 10 listed serious felonies are ineligible. Expungement is also available through the state intervention court system (substance abuse, mental health, veterans). Victims of human trafficking may petition the court to vacate their convictions, making the record eligible for expungement. There is no statutory authority to seal or expunge pardoned convictions. Non-conviction records are eligible for immediate expungement upon petition, including uncharged arrests, charges dropped, charges dismissed after deferred adjudication, and acquittals. A person whose conviction was expunged need not report it, but an employer is not prohibited from asking the person about it. Juvenile records are generally confidential; they may be sealed when the person reaches the age of 20 or if the case was dismissed or set-aside. The judge also has authority to order destruction of juvenile records.

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Missouri

Expungement is authorized for all non-Class A felonies and all misdemeanors, subject to a lengthy list of exceptions for violent offenses, sex offenses, other more serious crimes, and driving offenses involving liquor or commercial driver's licenses. Only one felony and two misdemeanors may be expunged in a lifetime (but all counts in a single indictment may be counted as a single offense). There is a waiting period of three years after completion of sentence for felonies and one year for misdemeanors, during which there may be no new convictions, and fines and restitution must be paid. The court notifies the prosecutor, who in turn is responsible for notifying any victim. A hearing may be dispensed with if the parties agree, but the court in each case must find that the petitioner is not a threat to public safety and that expungement is in the public interest.

In addition, prostitution pleas and convictions may be expunged if the person was a minor acting under coercion. Expunged records are generally not available to the public, but remain available to criminal justice agencies, licensing agencies, and employers that are required to exclude convicted individuals.

Any felony or misdemeanor for which probation may be imposed is eligible for suspended imposition of sentence. Records in cases disposed of favorably to the defendant are automatically "closed," but expungement is available only pursuant to the same eligibility rules and procedures that apply to convictions. Juvenile records are generally unavailable to the public, and juveniles may petition the court to destroy their records once they reach the age of 17.

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Montana

There is no statutory authority to seal or expunge adult felony convictions.

Expungement is available for multiple misdemeanors, but only once in a person's lifetime. Relief is presumed for all but certain serious misdemeanors after a 5-year waiting period; other misdemeanors may also be expunged in the court's discretion. Misdemeanors from different counties may be expunged in a single proceeding.

Effective Jan. 1, 2021, a person serving a sentence—or who has completed a sentence—for an marijuana act legalized or punishable by a lesser sentence under the 2020 marijuana initiatives may petition the sentencing court for an expungement, resentencing, and/or redesignation. Deferred sentencing is available for misdemeanors and first felony offenses, after which charges are dismissed and access to records is limited. Non-conviction arrest records must be returned to defendant or destroyed.

Youth court and associated law enforcement records are automatically sealed upon defendant's reaching age 18.

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Nebraska

There is no statutory authority to seal or expunge adult convictions. Those sentenced to probation or to pay a fine may petition the court to set-aside the conviction upon discharge, if the court finds that the order will be “in the best interest of the offender and consistent with the public welfare.” In 2020, for the first time, a person sentenced to a term of imprisonment of one year or less may also petition the sentencing court to “set aside” the conviction, with certain exceptions. Set-aside “nullifies” the conviction and removes “all civil disabilities and disqualifications” but does not expunge or seal the record. Sealing is authorized for pardoned convictions, for victims of human trafficking for “any offense” directly resulting from the trafficking, and in cases of deferred judgments. For non-convictions, upon acquittal or entry of an order dismissing a case, including for successful drug court program completion, information pertaining to the case is sealed and not disseminated to persons other than criminal justice agencies. Arrests where charges were not filed because of diversion are sealed after two years, and records of uncharged arrests are sealed after one year. Most juvenile records are automatically sealed upon disposition.

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Nevada

All convictions except for crimes against a child, sex offenses, and certain DUIs, are eligible for sealing after a waiting period ranging from one to 10 years after discharge or release from prison if no convictions during waiting period or pending charges. There is an explicit presumption in favor of sealing except for those dishonorably discharged from probation or parole, whose sealing is discretionary. Sealed convictions may be denied and have no predicate effect. Non-conviction records are presumptively eligible for sealing after the charges are dismissed, declined for prosecution (after the limitations period has run or 10 years), or a person is acquitted. There is limited authority to defer sentencing in drug cases. Victims of human trafficking may petition to have any non-violent conviction vacated and the record sealed. Sealing is also available for conduct that was subsequently decriminalized. Effective in 2021, pardoned convictions may also be sealed. Most juvenile records are automatically sealed when the person turns 21, except that earlier sealing is available by petition after a three-year waiting period, and certain violent and sexual offenses are not eligible for sealing until the person turns 30.

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New Hampshire

Convictions for most nonviolent offenses may be “annulled” by the court upon petition after waiting periods ranging from one to ten years after completion of sentence or

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release from prison, subject to a “public welfare” standard. Victims of human trafficking may have prostitution convictions vacated and annulled, and convictions for marijuana possession may also be annulled. There currently exists no statutory authority for deferred adjudication except in drug court. Non-conviction records may be annulled by the court subject to the “public welfare” standard. Records in the repository that have been annulled or that did not result in conviction are confidential, and not available to background screeners. Juvenile records are confidential; they are “closed” when a person turns 21, though they are still available to law enforcement.

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New Jersey

Record relief: New Jersey has two main paths to expungement of convictions: one is via petitions filed in court, and the other is a newly authorized “clean slate” authority that will eventually be automatic. Petition-based expungement of a single “indictable” offense (felony) is authorized five years after completion of sentence, and of up to three additional “disorderly persons” offenses (misdemeanors) after a 5-year waiting period running from the last conviction. The waiting period may be reduced to three years if the person is seeking expungement only for disorderly offenses. A prior expungement is disqualifying, as is having more than one indictable offense conviction or more than three disorderly offense convictions, but a prior conviction is not. Most serious and violent offenses, offenses by public officials, and serious drug offenses are ineligible for expungement. An e-filing system was authorized in 2019 and is scheduled to launch in mid-2020.

Deferred adjudication leading to expungement is broadly available, and expungement by petition is also authorized for successful completion of drug court, prostitution by victims of human trafficking, and pardoned convictions.

The second path to expungement is styled “clean slate” and authorizes automatic expungement of eligible convictions ten years after completion of the last sentence (same eligibility criteria as petition-based expungement). Pending development of an automated delivery system, individuals may apply to the court and relief is mandatory upon a determination of eligibility. Also, a range of marijuana convictions are subject to automatic sealing and/or expungement.

Arrest and other non-conviction records are expunged automatically at time of disposition (the requirement of a petition having been repealed in 2019). Juvenile records may be expunged after a three-year waiting period with no subsequent adjudications or convictions.

Judicial/administrative certificates: The sentencing court and supervisory authority are authorized to issue certificates evidencing rehabilitation that “suspends certain

disabilities, forfeitures or bars to employment or professional licensure.” A certificate may be awarded by the court at sentencing if the person has only one conviction and is not sentenced to prison, or by the supervisory authority three years after completion of supervision if the person has no other conviction within ten years.

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New Mexico

Courts are authorized to expunge convictions for all but the most serious violent offenses after a conviction-free waiting period ranging from 2 to 10 years after completion of sentence, including payment of fines and fees. The court must find after a hearing that “justice will be served by an order to expunge,” applying a multi-factor test. Expungement is defined as limiting public access. Deferred sentencing following a plea is available except in first-degree felony cases, and expungement is available under the procedures and standards applicable to convictions. Certain marijuana-related records are subject to automatic expungement. Victims of human trafficking may petition to have their records sealed if the offense was not a homicide and the offense was directly related to the trafficking. Courts may also expunge non-conviction records (including conditional discharges) after a one-year waiting period, so long as no charges are pending. Juvenile records are generally unavailable to the public. Upon motion to the court made by a person over 18 years old (or younger, upon a showing of good cause), the court is required to seal all records so long as two years have passed since release from custody/supervision (or entry of judgement), and there have been no subsequent adjudications or convictions for any felony or misdemeanor involving moral turpitude, and no charges are pending.

Judicial certificates: Uniform Collateral Consequences of Conviction Act provides for collection, notification, limited relief from mandatory consequences, and standards for discretionary disqualification. Gives effect to out-of-state relief, and relief is available to those with federal and out-of-state convictions.

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New York

Record relief: Sealing is authorized for up to two convictions (only one of them a felony) 10 years after sentencing or release from prison. Sex offenses, class A and violent felonies are ineligible. Multiple eligible convictions “committed as part of the same criminal transaction” are considered a single conviction. If the district attorney does not object, the court may decide the application without a hearing, applying a multi-factor test to determine rehabilitation. Conditional sealing is also available upon completion of judicial diversion, and it may extend to up to three prior misdemeanors. Prostitution convictions for victims of human trafficking may be vacated and sealed.

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Certain marijuana convictions are automatically expunged. Sealing of non-conviction records is mandatory upon termination of the action in favor of the accused. Juvenile adjudications terminated in favor of the juvenile must be sealed, and those concluding in a finding of delinquency may be sealed. Youthful offender (16-19) records are sealed automatically upon adjudication.

Judicial/administrative certificates: A Certificate of Relief from Disabilities (CRD) may be obtained from the sentencing court for first felony offenders not sentenced to prison, and otherwise from the parole board. A Certificate of Good Conduct (CGC) is available from the parole board for people with multiple felonies. Both certificates relieve mandatory consequences and signify rehabilitation, but only the CGC restores firearms rights and eligibility for public office. Persons residing or doing business in New York with convictions from other states or with federal convictions are eligible to apply for certificates.

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North Carolina

Record relief: Up to three nonviolent felonies and multiple nonviolent misdemeanor convictions are eligible for “expunction” on a one-time basis — though relief may be staged where eligibility periods are different as long as there are no convictions after expungement. Multiple convictions in the same session of court shall be treated as one conviction. The eligibility waiting period is 20 years after completion of sentence for 2-3 felonies and 10 years for a single felony, seven years for more than one misdemeanor, and five years for a single misdemeanor, and there may be no new convictions in the waiting period. Eligible persons must have paid all restitution, have no pending charges, and have no prior expungements except as permitted where relief is staged, or where relief is sought for non-convictions. Deferred adjudication is available for first-time minor drug offenses, but expunction follows only for those under age 22. Youthful first offenses committed between the ages of 18 and 21 may also be expunged following a 4-year waiting period, and youthful offenses are eligible under other authorities. Most non-conviction records may be automatically expunged, and expungement upon petition is also available without a hearing, notably to expunge dismissed charges in cases resulting in conviction. Juvenile records are generally unavailable to the public and may be sealed by court order and expunged after the person turns 18 after an 18-month period of good behavior.

Judicial certificates: A Certificate of Relief is available from the sentencing court one year after completion of sentence for individuals with a limited number of misdemeanors and minor felonies. This certificate relieves mandatory collateral consequences, certifies that the person poses no public safety risk, and provides negligent hiring protection.

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North Dakota

Misdemeanor and felony convictions may be sealed upon petition, with conviction-free waiting periods of 3 and 5 years after conviction, respectively, except that violent offenses must wait 10 years and sex offenses are not eligible. The court may grant a petition if it finds that the petitioner has made a showing of “good cause,” has completed the sentence and paid restitution, and that “the benefit to the petitioner outweighs the presumption of openness of the criminal record,” applying a multifactor test. A hearing may be dispensed with if the prosecutor agrees. “Seal” is “to prohibit the disclosure of the existence or contents of court or prosecution records unless authorized by court order.” Minor felony convictions may be set aside and knocked down to misdemeanors after successful probation. First offense marijuana possession may be sealed after two years unless there is a subsequent conviction. Victims of human trafficking may have prostitution convictions vacated and sealed.

Deferred imposition of sentence is available, after which the record sealed. Otherwise, access to non-conviction records, including records of diversionary dispositions, may be sealed by court rule if the court finds the interest of justice will be served, pursuant to a balancing test. Juvenile adjudications for prostitution, theft and forgery, and drug possession linked to being victim of human trafficking may be vacated and expunged. Otherwise, juvenile records are generally unavailable to the public, and are destroyed automatically after 10 years or earlier upon petition.

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Ohio

Record relief: Sealing is available for less serious felonies and misdemeanors, after waiting periods of one to three years after final discharge. When two or more convictions “result from or are connected with the same act or result from offenses committed at the same time, they shall be counted as one conviction.” A hearing is held in which the court applies a balancing test. Sealing is available for out-of-state and federal offenses (only seals records held by Ohio). Intervention in lieu of conviction is available for those with no prior violent felony convictions. Pardoned convictions if the governor authorizes it. Sealing is available for non-conviction records upon disposition. Sealing restores rights and prohibits inquiry by employers and licensing boards in most cases, but a sealed conviction may be used in subsequent criminal case. Expungement (destruction) is available for prostitution convictions of victims of human trafficking. Juvenile records may be sealed six months after discharge, except for convictions of rape or murder, and sealed records are automatically expunged 5 years afterward or when the person reaches age 23, or earlier by petition if the court finds rehabilitation.

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Judicial certificates: Judicial Certificate of Qualification for Employment (CQE) removes specified mandatory occupational and licensing consequences and creates a presumption of fitness; 1-year waiting period after completion of sentence for felonies, 6 months for misdemeanors. Unlike judicial certificates in some other states, individuals with out-of-state or federal convictions are ineligible for a CQE, even if they reside and/or do business in the state.

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Oklahoma

Up to two nonviolent felony convictions may be expunged (sealed) 10 years after completion of the last sentence, if no charges are pending. Offenses arising out of the same transaction or occurrence shall be treated as one conviction and offense. One nonviolent felony may be expunged after 5 years, and non-violent felonies reclassified as misdemeanors may be expunged after 30 days. Misdemeanors may be expunged after 5 years if no prior felonies and no charges pending, except that the waiting period is waived if the sentence involves a fine less than \$500 and no (or suspended) prison term, upon satisfaction of fine. Pardoned offenses and prostitution convictions of victims of human trafficking may be expunged with no waiting period. Deferred adjudication and probation is available for misdemeanors and first-time minor felony offenses, with expungement after a waiting period (5 years for felonies, one year for misdemeanors); deferred adjudication for people with first-time drug offenses leads to automatic expungement upon discharge. Non-conviction records may be expunged in case of acquittal or if no charges are filed; dismissed charges may be expunged only if the person has no felony convictions and the limitations period has passed. Records of juvenile adjudications may be expunged upon reaching age 18 if no adult arrests or pending charges.

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Oregon

Misdemeanors and Class C felony convictions may be set aside three to five years after judgment or release, and non-violent Class B felonies may be set aside after seven years, provided in all cases that there has been no other conviction during the waiting period. Set-aside restores all rights, relieves all disabilities, and seals the record. Sealing is also available for pardoned convictions, human trafficking victims convicted of prostitution, and marijuana possession convictions. Deferred adjudication in drug cases, first misdemeanor PBJ. Set-aside of non-conviction records is available 60 days after arrest if no charges filed, or any time after an acquittal or dismissal, with prior record exclusions repealed in 2021. Juvenile records may be expunged upon reaching age 18 after a 5-year waiting period if the person has no subsequent convictions of a felony or

Class A misdemeanor and no charges are pending. Juvenile records ineligible for expungement may be eligible for set-aside and sealing.

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Pennsylvania

Sealing (“order for limited access”) is automatic for 2nd and 3rd degree misdemeanors and ungraded offenses after a 10-year conviction-free waiting period, with certain disqualifying priors (including any prior felony conviction), and full payment of restitution. Sealed records are not available to public or private employers, or landlords, but remain available to licensing agencies and other state and criminal justice agencies. Sealing is also available by petition to the court, with broader eligibility (some first-degree misdemeanors eligible, fewer disqualifying priors, also requirement to pay restitution) and broader effect (licensing boards do not have access). “Clean slate” sealing is mandated for non-conviction records within 30 days of disposition, with the additional remedy of expungement by petition in cases where no disposition is indicated after 18 months.

Expungement is available by petition for “summary” offenses after five years; for underage drinking; for those age 70 with no arrests within 10 years; for pre-plea diversion (ARD); and for “probation before judgment” cases involving nonviolent, first-time drug offenses. Expungement is mandatory for pardoned offenses. Courts have inherent authority to redact conviction records to expunge dismissed charges. Juvenile records may be expunged six months after discharge on a consent decree or upon reaching age 18; or five years after delinquency adjudication.

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Puerto Rico

Expungement of a conviction is available for misdemeanors and most felonies after a waiting period of six months (misdemeanors) or five years (felonies) without further conviction. The applicant must demonstrate “good moral reputation in the community,” and persons with a felony conviction must provide a DNA sample. A “certificate of rehabilitation” is available from the court on motion of the corrections department for persons who have been released on parole, directing that the sentence has been fully served; the conviction is not to be included in their criminal record certificate, but it may be used in subsequent criminal cases.

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Rhode Island

Record relief: Rhode Island law provides three separate authorities for expungement:

1) “first offenders,” defined as those with a single felony or misdemeanor conviction; 2) those with between two and six misdemeanor convictions; and 3) those who successfully completed deferred sentences. It also provides additional authority for expunging other diversionary dispositions as well as decriminalized offenses, and for sealing non-conviction and juvenile records. Sealing and expungement have been held to be functionally identical. Felony “first offenders” must wait ten years after completion of sentence without an arrest, and first misdemeanants five years; payment of court-imposed financial obligations is required, and some convictions for serious violence are ineligible. Additionally, up to six misdemeanors (except for domestic violence and DUI convictions) may be expunged after an arrest-free waiting period of 10 years if the person has no prior felony conviction. Some violent crimes are ineligible. After a hearing, the court must find that the applicant “has exhibited good moral character” and that “rehabilitation has been attained to the court’s satisfaction.”

Expungement releases recipient “from all penalties and disabilities resulting from the crime,” including firearms disabilities, except that it may serve as a predicate offense and enhance a sentence in a subsequent prosecution.

Deferred sentencing is broadly available, and expungement is available immediately upon completion of a deferred sentence. Convictions for decriminalized conduct may also be expunged. Non-conviction records may be sealed on petition, and a proviso limiting relief (except in acquittals) to those with no prior felony conviction was repealed in 2021. Expungement is defined to mean sealing, and there are broad exceptions. Juvenile records are automatically sealed at disposition (with some exceptions) but may be used in subsequent sentencings.

Certificates of relief: A Certificate of Recovery and Re-entry may be issued by the parole board to persons with no more than one nonviolent felony conviction, after completion of sentence and payment of fines and restitution. A certificate may “serve as one determining factor as to whether the petitioner has been successful in his or her rehabilitation,” but does not remove mandatory consequences. Certificates are available for federal and out-of-state convictions.

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South Carolina

Records of minor misdemeanor convictions and summary offenses may be expunged and destroyed after three years if there are no subsequent convictions (domestic violence convictions must wait five years). Youthful Offender Act (age 17 to 25) convictions for first offense minor felonies and non-violent misdemeanors may be expunged after five years if no prior or subsequent convictions. Various diversionary and other authorities, including for victims of human trafficking, may lead to

expungement for non-violent first offenses. Traffic offenses cannot be expunged. There is no statutory authority to seal or expunge pardoned convictions. A person may petition for expungement if charges are dismissed (except as part of a plea) or acquitted, and then records are destroyed but law enforcement may retain records for 3 and 1/2 years; non-convictions disposed in Magistrate or Municipal Court after June 2, 2011 are automatically expunged. Juvenile records may be expunged when the person turns 18, with some exceptions for violent offenses and repeat offenses. All applications for expungement must be made through the Solicitor's Office in the judicial circuit where the charge originated, which determines eligibility, coordinating with other agencies and with courts, and processes application as necessary. A fee of \$250 applies, except that there is no fee for non-convictions.

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South Dakota

Arrests and convictions for Class 2 misdemeanors, municipal violations, and petty offenses are automatically sealed (removed from the public record) after five years if all court-ordered conditions are satisfied, and there are no intervening convictions. There is no statutory authority to seal adult felony convictions unless they are pardoned. The state repository may destroy misdemeanor records after ten years, and records of individuals over 75 who have been crime-free for ten years. Sealing follows deferred adjudication for people with no prior conviction charged with any felony and misdemeanor offenses except those punishable by death or life imprisonment. Non-conviction records may be expunged one year after arrest if no charges were filed; and at any time after acquittal, or after dismissal with consent of prosecutor. Juvenile records may be sealed after a one-year waiting period if there are no subsequent adjudications or convictions, and if the court finds rehabilitation. Juvenile records of victims of human trafficking or sexual exploitation may be vacated and expunged.

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Tennessee

Record relief: A person with no more than two convictions for specified misdemeanors and many nonviolent felonies (Class E through C) may petition for expungement on a one-time basis after waiting periods of five-to-fifteen years after completion of the most recent sentence. Multiple contemporaneous convictions may be treated as a single offense and expunged. Courts must notify defendants of their eligibility for expungement at the time of sentencing. Expungement results in the destruction of the public record but the court retains a confidential copy that is available to law enforcement. Victims of human trafficking may have any crimes attributable to that status expunged, but at least one of the crimes must be for prostitution. A pardon is

grounds for expungement. Expungement restores firearms rights even for those convicted of drug and violent offenses. A special expungement filing fee has been repealed, and the regular \$100 filing fee may be waived.

Deferred adjudication leading to expungement is available to persons charged with all but serious violent and sexual offenses, with no more than one prior conviction for a felony or serious misdemeanor that resulted in confinement. Diversion is available for those charged with misdemeanor or low-level felony offenses if a person has no prior felony or Class A misdemeanor conviction and no prior diversions. The court must destroy public records in cases of acquittal or where charges have been dismissed; the court may also redact conviction records to expunge dismissed charges from electronic databases. Expungement is mandatory for juvenile misdemeanors after a one-year waiting period, and other juvenile records are eligible for expungement in the court's discretion once the person has turned 17 and a year has passed since the most recent adjudication. Juvenile victims of human trafficking may petition to expunge prostitution convictions related to the trafficking.

Judicial certificates: Judicial restoration of rights is available upon petition after expiration of the maximum sentence or a pardon, if the court determines that the petitioner “merits having full rights of citizenship restored” (which includes firearms rights in most cases). Individuals who have had rights restored may also petition court for a “Certificate of Employability,” which lifts most licensing barriers and protects employers from negligent hiring liability. Persons with federal or out-of-state convictions are eligible. The court makes findings after a hearing about character, need for relief (including for employment or licensing) and public safety.

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Texas

Texas provides no record relief for felony convictions, and authorizes sealing (“order of nondisclosure”) in misdemeanor cases only where the person has no prior convictions or deferred dispositions, after a two-year waiting period for more serious misdemeanors. Sealing is discretionary after a waiting period of up to 5 years for first-offense DUI offenses. An order of nondisclosure prohibits criminal justice agencies from disclosing criminal history record information to the public, and such information is exempted from disclosure under the Public Information Act. Victims of human trafficking may apply for set-aside and sealing for marijuana offenses, theft offenses, prostitution, or Class A misdemeanor solicitation, if they were placed on community supervision.

Deferred adjudication/community supervision is available for most offenses and may result in sealing: sealing is automatic for many misdemeanor charges upon disposition; sealing is available by petition for serious and repeat misdemeanor charges after a two-

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year waiting period, and for felony charges after five years. “Expunction” is available for non-conviction records after a waiting period ranging from 180 days to three years. Expunction is also available for pardoned offenses, and for class C misdemeanors that have been deferred. Sealing for juvenile adjudications is automatic at age 19 for misdemeanors and non-conviction records, as long as the person does not have a conviction or pending charges; sealing is discretionary upon petition at age 18 or two years after discharge for felonies and other adjudications ineligible for automatic sealing.

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Utah

A person convicted of one felony and varying numbers of misdemeanors, each contained in a separate criminal episode, is eligible to apply to expunge all but serious and violent offenses after a waiting period ranging from 3 to 10 years after completion of sentence, including payment of fines and restitution. If a person is eligible, an expungement order must issue unless court finds it would be “contrary to public interest.” Vacatur and expungement are available if the offense was committed while the petitioner was subject to force, fraud, or coercion (eligible convictions include possession of a controlled substance, prostitution, criminal trespass, theft, possession of forged documents). A petitioner must apply for and receive a “certificate of eligibility” from the Bureau of Criminal Identification before filing a petition with the court; the court may dispense with a hearing if there is no objection from the prosecutor or victim, and “shall issue” an order of expungement if not “contrary to the interests of the public.” A pardoned conviction is automatically expunged. Expungement entitles a person to deny that the arrest or conviction occurred; public employers and licensing boards may not ask about or consider expunged convictions. Effective May 1, 2020, Utah’s clean slate law authorizes development of an automated expungement process for certain less serious misdemeanors and certain non-conviction records, including dismissals due to a “plea in abeyance” (deferred adjudication).

Non-conviction records are eligible for expungement by petition after 30 days if no charges are filed, the charges are dismissed and the limitations period has expired on all charges, or the person is acquitted. Successful completion of an agreement pursuant to a “plea-in-abeyance” agreement (deferred adjudication) may result in expungement. Juvenile records may be expunged following a one-year waiting period after age 18, and the person has no violent convictions within five years or pending charges.

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Vermont

Record relief: Expungement and sealing are available for “qualifying” crimes (or “qualifying crimes arising out of the same incident or occurrence”) after a 5-year waiting period if no intervening convictions. In the event of an intervening conviction, the waiting period is extended to 10 years, with no felony conviction within 7 years and no misdemeanor within 5 years. Qualifying crimes are nonviolent non-sexual misdemeanors and several minor felonies including drug possession. In all cases, restitution must be paid in full. If the state’s attorney and petitioner stipulate to the granting of the petition, the court “shall grant” the petition without a hearing. Sealing and expungement have a similar effect (in both cases the response to an inquiry is that ‘no record exists”) except that, for expungement, records in accessible databases and the case file are destroyed; also, a sealed record may be used by law enforcement or in a civil suit, and the conviction may be used as a predicate in a subsequent prosecution. A person with a “qualifying” conviction (see above), resulting from being a victim of human trafficking, may have the conviction vacated and expunged. Convictions for offenses committed under age 21 may be sealed two years after discharge if the person is deemed rehabilitated.

Deferred sentencing results in expungement upon successful completion. Expungement is also available after two years under a diversion program available to those with up to two misdemeanors, and a youthful offender program (18-21) for those convicted of certain minor offenses. The court must expunge or seal all non-conviction records after a short waiting period unless the government objects. Juvenile records are generally unavailable to the public and may be sealed two years after discharge, if restitution has been paid, the person has no subsequent convictions or pending proceedings, and rehabilitation has been attained.

Judicial certificates: The Uniform Collateral Consequences of Conviction Act (UCCCA) authorizes the court to issue targeted relief from mandatory collateral consequences at sentencing (Order of Limited Relief), and more thorough relief after five years (Certificate of Restoration of Rights). Persons with out-of-state and federal convictions are eligible. UCCCA also requires that people be informed about expungement and sealing at sentencing, and recognizes relief granted in other states.

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Virgin Islands

Expungement is authorized in misdemeanor cases; the government has the burden of proving by clear and convincing evidence that expungement should not be granted.

Deferred adjudication is available for people with nonviolent first offenses and first-time drug possession offenses, with expungement after completion of probation.

Expungement is also authorized for any youthful offense after a 5-year waiting period if under age 21 at the time of the offense. Expungement of non-conviction records is

mandatory after the limitation period for charges dismissed or not prosecuted. Expunged records may be disclosed only upon court order, and only to courts in a criminal case or for government employment. Juvenile records may be sealed on motion two years after discharge if the person has not been convicted of a felony or misdemeanor, and no proceeding is pending seeking conviction or adjudication.

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Virginia

A law enacted in 2021 authorizes automatic sealing for some misdemeanor convictions and non-convictions, allows for sealing of felony acquittals and dismissals at disposition, and for sealing a broad range of misdemeanor and low-level felony convictions and deferred dismissals through a petition-based court process. Until that law becomes effective in 2025, there is no statutory authority to seal or expunge convictions, except that an absolute pardon (for innocence) or judicial writ of innocence permits expungement. Deferred dispositions are available, but expungement is not an option. As to other non-conviction records, courts will expunge records on petition after acquittals or where charges are nolle prossed or dismissed, but only where the court finds “manifest injustice” after a hearing, except where the person was charged with a misdemeanor and has no prior record, although the hearing may be waived by the prosecutor. After expungement, a person may deny any record and employers may not inquire about it. Juvenile records are generally unavailable to the public and are automatically destroyed after the person turns 19, and five years have passed since the last hearing, subject to a few exceptions.

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Washington

Record relief: Convictions for all but the most serious and violent offenses may be “vacated” and the charges dismissed, upon discharge. For felonies there is a 5 to 10 year waiting period, and for misdemeanors a 3 to 5 year waiting period, during which there may be no new convictions. Certain misdemeanors involving violence or sexual assault are ineligible, but a single domestic violence conviction may be vacated after five years. Financial penalties need not be satisfied for felonies if five years have elapsed after supervision, but anomalously this requirement remains for misdemeanors.

Pardon automatically vacates conviction. Vacatur results in limiting public access to state repository records, but there is no statutory authority to seal or limit access to court records. A court rule permits limiting access to vacated court records but only in compelling circumstances.

Non-conviction records must be deleted from agency records after a two-year waiting period if disposition is indicated, and after three years if no disposition is indicated, except that deletion is discretionary in diversion cases, if the person has an additional

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criminal record, or if subsequent charges are pending. Records in cases where sentencing deferred may also be sealed. Juvenile adjudication records are automatically sealed (except serious violence, sex, and drug offenses) upon satisfaction of terms and conditions of disposition, unless the court finds compelling reasons not to seal after a hearing; juvenile adjudications ineligible for automatic sealing may be sealed after a crime-free 2-to-5 year waiting period.

Judicial certificates: Judicial Certificates of Restoration of Opportunity (CROP) are available for all but the most serious crimes, after a waiting period ranging from 1 to 5 years after sentencing or release from confinement. CROPs prohibit licensing agencies from disqualifying individuals solely based on their conviction record. While employers and housing providers are not required to consider them, CROPs offer some protection against liability.

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West Virginia

Some misdemeanors and nonviolent felonies are eligible for expungement after a 1 to 5 year waiting period. A person may apply for more than one misdemeanor but only for a single felony (including offenses arising from the same transaction or series of transactions). A hearing is required: applicants must obtain and serve documents on multiple parties, and must show by clear and convincing evidence that expungement is consistent with the general welfare and that they are rehabilitated. If the petition is granted, the court “shall order the sealing of all records in the custody of the court and expungement of any records in the custody of any other agency or official, including law-enforcement records.” A provision limiting a person to one expungement was repealed in 2020. Victims of human trafficking convicted of prostitution may petition for vacatur and expungement. Pardoned convictions are eligible for expungement after a one-year waiting period, five years after completion of sentence. There is broad statutory authority for deferred adjudication leading to expungement. Records of acquittals and dismissals may be expunged on petition, except where the defendant has a prior felony conviction. Juvenile records are automatically sealed one year after discharge, or when the person turns 19, unless the case was transferred to adult court.

Wisconsin

There is no statutory authority to seal or expunge convictions, except in two specialized scenarios. A youthful conviction (under 25 at time of offense) for a misdemeanor or a minor non-violent first-time felony may be expunged upon successful completion of the sentence, but only if the court orders this relief at the time of sentencing. Victims of human trafficking may petition to have prostitution convictions vacated and expunged. Deferred prosecution is available in domestic violence and some sex offense cases; upon

successful completion of deferral, the charges are dismissed and no conviction results. Non-conviction records (criminal justice, but not court records) may also be expunged, including records in which prosecution was deferred, under a statute providing for the return of fingerprint records when an arrested person is released without charges or cleared of the offense. Upon petition, juvenile records may be expunged once the person turns 17 and the sentence is completed, if the court after a hearing finds a benefit to the individual and no harm to society.

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Wyoming

A single felony conviction may be expunged ten years after the sentence expires if the applicant has no other felony convictions and paid any restitution. This relief is not available for felony firearm offenses, for many sexual offenses, and for crimes involving violence, child endangerment, bribery, perjury, DUI, drug distribution. A handful of misdemeanors (simple assault, domestic violence, reckless endangerment and breach of peace) may also be expunged after five years if the offense did not involve use of a firearm. A hearing is required under either authority only if there is an objection. Expungement relief is available only once for misdemeanors.

Deferred sentencing is authorized on a one-time basis for misdemeanors and first felony offenses, excluding certain serious crimes; no conviction results but expungement is unavailable. Non-conviction records (excluding deferred sentences) may be expunged 180 days after dismissal of proceedings if no other charges are pending. Victims of human trafficking may have prostitution convictions vacated, after which they presumably may be expunged as non-convictions. Juvenile records (and certain municipal and circuit court cases, and non-conviction records of minors charged as adults) may be expunged and destroyed upon petition after reaching age 18, if the person has no subsequent felony convictions and rehabilitation is attained to the satisfaction of the court or prosecutor.

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TWO YEARS AND COUNTING: ASSESSING THE GROWING POWER OF DACA

By Roberto G. Gonzales and Angie M. Bautista-Chavez

TWO YEARS AND COUNTING: ASSESSING THE GROWING POWER OF DACA

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DACA TURNS TWO

This week marks the two-year anniversary of the Deferred Action for Childhood Arrivals (DACA) Program, first initiated by President Obama on June 15, 2012.¹ This research brief presents current findings from the National UnDACAmented Research Project (NURP) national survey on the impact that DACA has had on some of the young people who have received it. We find that DACA beneficiaries have experienced a pronounced increase in economic opportunities, and that these benefits appear to be the strongest for those attending four-year colleges and those with college degrees. In addition to the importance of postsecondary education, our findings also highlight a strong work ethic among DACAmented young adults that has significant implications for their new status as contributors to our nation's economy. Our study findings also demonstrate the important role played by community organizations in assisting DACA applicants and in helping them make the most of their benefits.

While our study shows that DACA is having a positive impact on many of its beneficiaries, its benefits are only partial. Based on our research, we provide recommendations aimed at bolstering DACA's effectiveness and more fully addressing the needs of immigrant young adults and their families.

THE NATIONAL UNDACAMENTED RESEARCH PROJECT

Over the last several years, as growing numbers of undocumented children have made critical transitions to young adulthood, the barriers they face to higher education and professional jobs have resulted in wasted talent.² This untenable situation imposes economic and emotional costs on undocumented young people themselves and on U.S. society as a whole.³ But, due to congressional inactivity on immigration, many have been forced to put their lives on hold.

With the initiation of DACA in 2012, hundreds of thousands of these young people have enjoyed the benefits of widened access to the American mainstream. This change in the Obama Administration's enforcement policy temporarily defers deportations from the U.S. for eligible undocumented youth and young adults, and grants them

access to renewable two-year work permits and Social Security Numbers.⁴ As of March 2014, 673,417 young people have applied to the program and 553,197 have been approved.⁵ While DACA does not offer a pathway to legalization, it has the potential to move large numbers of eligible young adults into mainstream life, thereby improving their social and economic well-being.

Shortly after the beginning of the program, the National UnDACAmented Research Project (NURP) was launched in an effort to better understand how DACAmented young adults were experiencing their new status.⁶ In 2013, the NURP research team carried out a national survey of DACA-eligible young adults between the ages of 18 and 32. A total of 2,684 respondents completed the survey.⁷ NURP efforts represent the largest data collection effort to date on this population.

NURP respondents come from 46 states and the District of Columbia, and generally reflect the demographics of the U.S. undocumented immigrant population. Respondents' median age is 22.7, while 40 percent are male and 60 percent are female. More than three-fourths of respondents grew up in a 2-parent household. Nearly three-fourths of respondents' households are low-income.

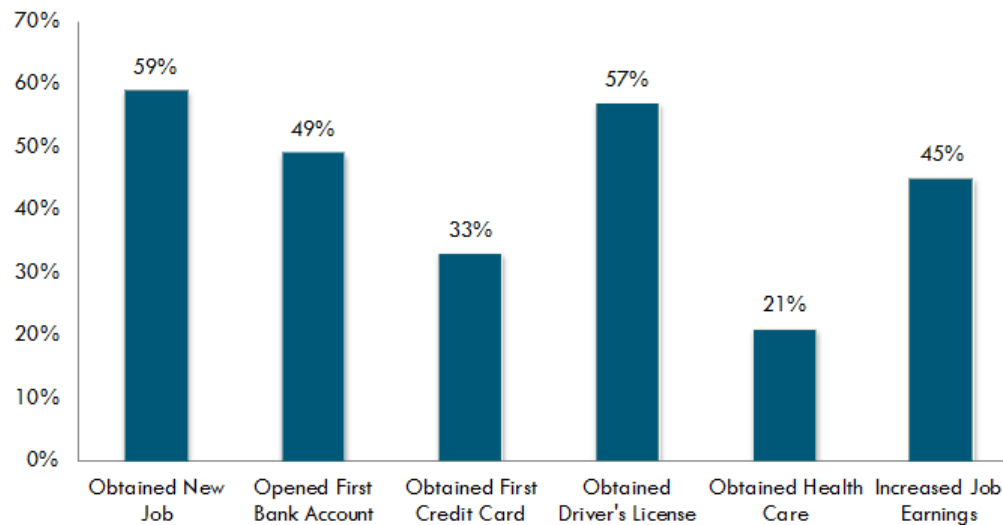
What follows is an analysis of the experiences of young people who received DACA within the first 16 months of implementation of the program. We also provide a nuanced presentation of the DACA program by presenting findings based on a subsample of eligible non-applicants—those individuals who meet the DACA qualifications, but did not apply. The results of this study have clear implications for policy and community practice.

KEY FINDINGS

The following discussion focuses on the 2,381 individuals in our study who had received DACA by the time they filled out the survey.

DACA Increases Opportunity

Without Social Security Numbers or the ability to work legally in the United States, undocumented young adults did not previously have access to a wide range of resources and opportunities afforded to their legal peers. However, since receiving DACA, these young adult immigrants have become more integrated into the nation's economic and social institutions.⁸

Figure 1. Resources Accessed by DACA Receipts

New Jobs

Almost 60 percent of DACA beneficiaries surveyed have obtained a new job since receiving DACA, and 45 percent have increased their earnings. These findings provide direct evidence of the economic boost provided by DACA. Because new jobs and increased earnings translate into a greater tax base, DACA is also providing an important boost to the economy.

Internships

Our results also show that just over one-fifth of NURP respondents (21 percent) have obtained an internship since DACA, which likely provides some valuable career training not typically available for young adults with limited employment histories.

Driver's Licenses

Additionally, 57 percent have obtained a driver's license. The ability of DACA beneficiaries to legally drive means better safety for all drivers. This important form of access has also likely widened beneficiaries' educational, employment, and other options.

Miguel was born in Guadalajara, Jalisco, Mexico. He came to the U.S. with his two parents and older brother when he was six years old. Growing up in El Monte, California, Miguel worked hard in school. He graduated from his high school in 2011, and started taking classes at a local community college—the first in his family to pursue higher education. DACA was initiated during Miguel's first year of college. With a work permit he started working at a print shop and was able to enroll as a full-time student. Having a driver's license also made life much easier for Miguel. In Southern California, one could easily spend two or more hours a day on the bus. After working for a year and establishing credit, Miguel pooled his money together with his father and they opened up a cell phone store in nearby La Puente. Miguel is also hoping to start his own business as a web designer and app developer. He credits DACA for providing opportunities to work and drive, as he strives for a better future for himself and his family.

Bank Accounts and Credit Cards

Meanwhile, almost half of our DACA beneficiaries (49 percent) have opened their first bank account, and one-third (33 percent) have obtained their first credit card. While undocumented immigrants are not necessarily prohibited from opening bank accounts, many banks require an identification number and a picture ID.⁹ The new forms of identification obtained through DACA allow young people to overcome bureaucratic hurdles and to avoid sometimes awkward or uncomfortable situations.

Health Care

Over one-fifth of NURP respondents (21%) obtained health care since receiving DACA. This is likely due to college enrollment or new employment-based plans. While DACA recipients are not eligible for the Affordable Care Act at the national level, California, Washington, Massachusetts, Minnesota, New York, and Washington, D.C. offer health insurance to low-income individuals granted deferred action.¹⁰

Benefits of DACA Greatest Initially for Those with the Most Education

Economic benefits appear to be greatest for those who attend four-year colleges and have already received their bachelor's degree.¹¹ Respondents who attended community and four-year colleges are more likely than their peers with no college experience to obtain a new job and increase their earnings. However, these economic benefits appear to be greatest for those who have already obtained a bachelor's degree: those with bachelor's degrees were more than 1.5 times more likely to obtain new jobs and increase their earnings, relative to those who never went to college. These findings suggest that those with college degrees fared the best in the job market by leveraging their credentials.

Meanwhile, four-year college students were 1.6 times more likely to obtain an internship, relative to their non-college going peers. It is likely that these college students obtained internships in connection to their colleges.

Prior to DACA, financing higher education for Elisa was an ongoing struggle. However, thanks to DACA she is now pursuing a master's degree in Communication Studies and has enjoyed the most financially stress-free years of her life as a student. Being DACAmented means that Elisa can work on her university campus. This past year she was able to successfully land an assistantship which not only paid her a monthly stipend, it also waived her tuition. Prior to DACA, undocumented students were not eligible for these kinds of opportunities and, as a result, faced steep barriers to graduate studies. Elisa will enter into the second year of her Master's program next year with high hopes buoyed by DACA. She is the Academic Initiatives coordinator for the department of Housing and Residential Life and will continue to have this position next year.

Key to their success, our DACAmented college graduates had multiple mentors in high school, they were active in clubs and in leadership roles in school, they were involved in their communities, and they were connected to organizations. As a result, these young people likely possess the social networks and information key to accessing job-related opportunities.

DACA Beneficiaries Display High Propensity to Work

Our findings underscore another important aspect of the DACA experience: DACA beneficiaries work hard. The vast majority of NURP respondents (86 percent) report ever having worked for pay. More than two-thirds of these young adults (67 percent) were employed at the time of the survey, and one-third of our DACA beneficiaries (34 percent) indicated that they held more than one current job. Many of these young people work to contribute financially to their low-income parents.

These young people work at levels comparable to or higher than their legal peers (controlling for grade-point average, ethnicity, and socioeconomic status). Before DACA their choices were severely restricted. But the work permits provided by DACA ensure greater levels of contribution to the high-skilled workforce, and show us that further investments in this population that is poised to fill job shortages would go a long way.

Access to DACA Often Turned on Connections to Community Organizations

Organizations are vehicles for DACA implementation, and our study finds several ways in which NURP respondents benefited from organizations—either through using community organization resources or being a direct member, or both.

NURP respondents benefited from community organizations and civic institutions by receiving assistance in filling out and compiling the paperwork for DACA applications. They turned to organizations, legal clinics, schools, religious institutions, and private attorneys within their communities. In fact, the overwhelming majority of our DACA beneficiaries (93 percent) received some assistance with DACA applications.

Not only were community organizations helpful in the DACA application process, they have been an important source of resources and support for many individuals pre-dating DACA. It is worth noting that our respondents who participated in community organizations were much more likely than those who did not to reap the job-related benefits of DACA. As members of such organizations, these young people have developed skills, strengthened their social networks, and have acquired the information critical to accessing job-related opportunities.

NOT EVERYONE ELIGIBLE FOR DACA CHOOSES TO PARTICIPATE

While a significant share of the DACA-eligible population has applied to the program, hundreds of thousands of eligible youngsters have yet to come forward. To shed some light on these eligible non-applicants, we now turn our attention to a smaller subsample of 244 respondents within our study who meet the DACA requirements, but have not applied to the program.

Compared to DACA-eligible young adults in our study who applied and received DACA, eligible youth who did not apply to DACA have less schooling, they work longer hours, they report less trust in institutions, and they are more likely to have children of their own. These young people live in rural and urban communities, but are less connected to the schools and institutions in their neighborhoods.

In order to better understand the barriers they face, we asked these respondents why they had not applied to DACA. As we might suspect, the number one barrier to applying was economic limitations. More than 43 percent of DACA-eligible non-applicants indicated that they could not afford the \$465 application fee. An additional, 10 percent indicated that they did not know how to apply. Given low family income and limited social networks, a lack of resources appears to be a large barrier for many DACA-eligible young adults.

In addition, 22 percent of our non-applicant respondents indicated that they did not apply because of missing paperwork, and another 17 percent did not apply because of legal concerns. These young people likely have less straightforward DACA cases, due to length of time in the U.S., time out of school, and legal issues for which additional legal assistance and resources are required.

Importantly, nearly 15 percent of these respondents report not applying because they fear sending their personal information to the government. And as many young people are making risk and cost to reward calculations, almost one-third of this group of non-applicants (30 percent) indicated that they are waiting for better options.

DACA'S BENEFITS ARE PARTIAL

Undoubtedly, DACA is reducing some of the challenges undocumented youth must overcome to achieve economic and social incorporation. But as an executive memorandum that shifts bureaucratic practice in U.S. Customs and Border Protection (CBP), U.S. Citizenship and Immigration Services (USCIS), and U.S. Immigration and Customs Enforcement (ICE), DACA has limited inclusionary power. While DACA addresses some of the needs of a critical segment of the immigrant population, these young people do not live in isolation—they are part of families and communities that also require relief. Additionally, our findings point to demographic variations in how this diverse population of young people is able to access new resources that advance their incorporation.

DACA Improves Postsecondary Access to Education

Our findings have important implications for the benefits of higher education. However, we find that DACA benefits are greatest among younger college graduates. For a segment of older DACAmented adults who have been out of school for several years, undocumented status has not allowed them to accumulate work experience in occupations that match their educational credentials and training. As a result, they are likely to have the requisite education, but lack the experience.

Most young adults in the U.S. aspire to some type of postsecondary education. Undocumented young adults are no different. While DACA has provided its beneficiaries an important avenue to better jobs and increased earnings to assist in their college enrollment, DACA does not override current federal and state exclusions from financial aid. Given that most American college students rely on some form of financial aid, such exclusions precipitate heavy financial obstacles.¹²

A large share of the DACA-eligible population experiences post-secondary education as a revolving door. Of our NURP respondents, 42 percent report not completing their plan of study within the normal time schedule, as limited finances and family responsibilities forced them to leave school for significant chunks of time.

“Stopping out,” or leaving college for a certain period of time with the intention of returning, is a growing, and concerning, trend among college students nationwide.¹³ A majority of “stop-outs”

in our study made multiple exists from college. Undocumented immigrant youth are three times more likely than similar youth (controlling for grade-point average, ethnicity, and socioeconomic status) to stop-out.¹⁴ Prior research suggests that academic preparation is the biggest factor to stopping-out, but for undocumented youth, finances are the most important factor.

DACA Improves Human Capital

As our survey findings demonstrate, the role of community organizations is critical to the success of DACAmented young adults. Many of these young people come from low-income households with parents who did not attend college. Many have also lived in an undocumented status for several years.

Additionally, as our results above indicate, individual and family resources condition the ability to maximize DACA's benefits. Low-income, low-skilled youth are less able to reap the benefits of DACA. These findings point to an inequality of access, rather than a weakness in the program itself. And, while college-goers in general are better positioned to access DACA benefits over those who are not in higher education, community college students are not faring as well as those in four-year postsecondary institutions.

DACA has opened up important legal avenues for a large number of its beneficiaries. But many of these young people require additional supports that could assist them in gaining job skills while also helping to connect them to opportunities. In particular, community organizations can assist DACA applicants to make connections to the kinds of additional services—transportation, child care, mentoring—they may need to access, persist, and complete education and job training programs.¹⁵ Additionally, if community organizations are able to partner with adult education and occupational training programs, they will be able to better reach the young adults who are not college bound, enabling them to earn the credentials and certificates that lead to employment and to wages that will allow them to support their families.

Strengthening community organizations' capacity to better engage these institutions will help to support DACA-eligible and DACAmented young adults' efforts to build important forms of human and social capital.

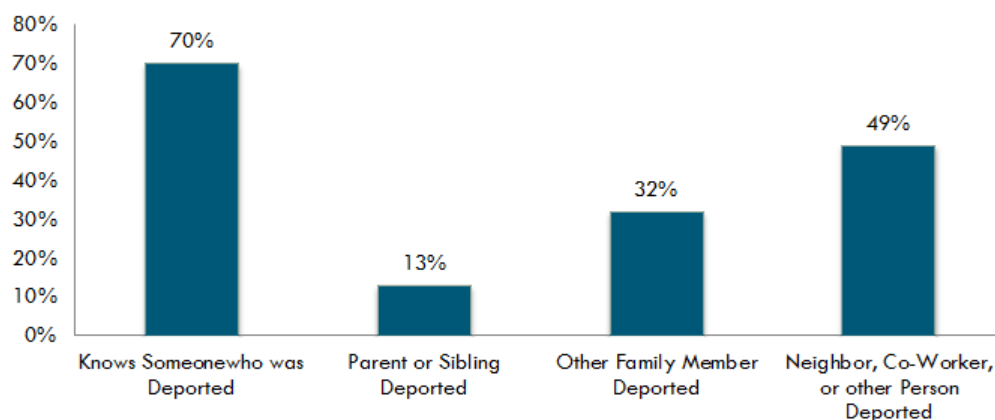
Additional Relief is Needed for Families

Importantly, DACA beneficiaries can enjoy a two-year period free from worry that they will be detained and deported. This has important psychological benefits, as these young people can more comfortably move through their daily routines without

having to constantly look over their shoulders. Our findings show that two-thirds of NURP respondents report being less afraid of law enforcement and of being deported. In addition to giving young people better peace of mind, this likely has positive correlations with public safety as it reduces victimization and relieves individuals of the fear over reporting criminal activity in their communities.

However, DACAmented young adults are not alone in their experiences. They belong to families and communities that lack important forms of access and are vulnerable to the threat of deportations and victimization because of their undocumented status. Seventy-six percent of our respondents told us that they continued to be worried about people they know being deported “some” to “all of the time.” These worries are connected to their firsthand experience with deportation within their communities, as 70 percent know someone within their immediate surroundings (parents, siblings, other family members, neighbors, and co-workers) who have been deported.

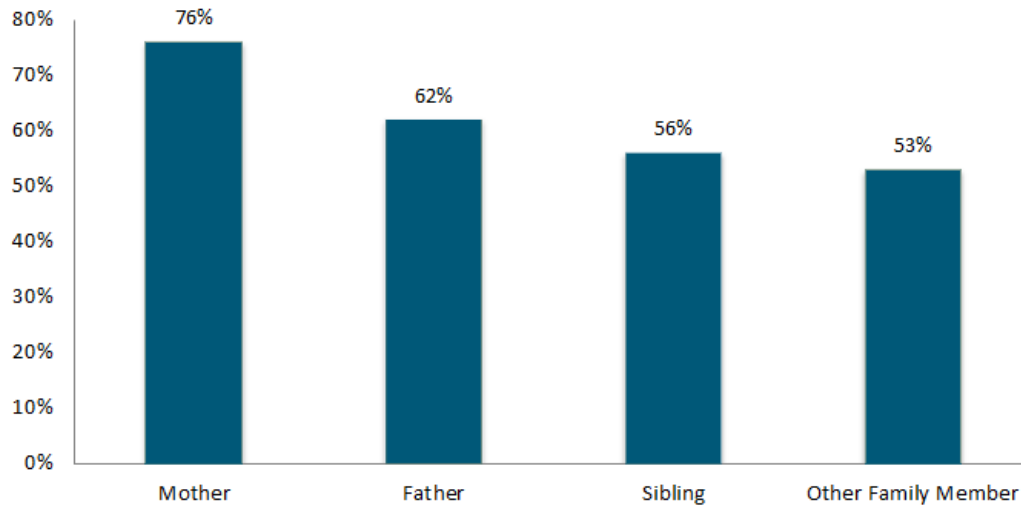
Figure 2. DACA Recipients’ Connections to Deported Individuals



Recipients

When we asked DACA beneficiaries about the effects on their families if immigration reform would pass, 90 percent said that someone in their family would benefit. More than three-fourths (76 percent) have mothers they said would benefit, 62 percent said they have fathers who would, and 56 percent have siblings who would. Immigration is a family affair, and providing relief to family members is critical to the success of DACAmented young adults.

Figure 3. Family Members Potentially Impacted by Comprehensive Immigration Reform



The NURP survey represents the largest data collection effort to date studying DACA-eligible immigrant young adults. As such, our findings have important implications for policy and community practice. The responses of our nearly 2,400 DACA beneficiaries provide clear evidence of DACA's success in providing benefits. Today, two years after the program was initiated, hundreds of thousands of young people are experiencing everyday lives of widened access to their communities, educational institutions, and the U.S. economy. As a result, they are better poised to contribute to their families, communities, and the nation as a whole.

RECOMMENDATIONS

Broaden DACA's Impact

The DACA renewal process will soon begin. It is important that community institutions continue to avail their services to DACAmented youth, encouraging them to reapply and providing them the assistance they need. The success of the program, and its ability to shine an important light on the importance of widened access for immigrant young adults, rests on communities' abilities to help DACA beneficiaries to successfully submit renewal applications.

But as communities work with young people on the renewal process, continued efforts are needed to reach the populations of young people who have not applied.¹⁶ Our findings from the subsample without DACA indicate that the biggest barriers these young people face are cost and access to resources and information. DACA loan programs, mobile legal clinics to resource-limited communities, and targeted outreach efforts are just a few of the efforts needed to move more young people into a DACAmented status.

Expand Postsecondary Access to Education

Naturally, some of the program's recipients are doing better than others. We find that those in four-year colleges are faring better, and that age is positively associated with taking advantage of benefits. But there are diminishing returns. DACA has likely improved educational and employment options for many of its beneficiaries, but financing postsecondary education remains a challenge.

While DACA has certainly widened the access of its beneficiaries, many other issues are left unaddressed. In particular, DACA recipients remain locked out of opportunities to receive federal financial aid and state aid in most parts of the country. To expand relief for youth, the U.S. must address the restrictions DACAmented young adults face to financial aid. Given the soaring costs of college, and that the majority of American students receive some form of federal or state financial aid, restrictions will continue to disadvantage DACAmented students, particularly those from low-income families.

Bolster Community Education and Workforce Development Initiatives

Since DACA's announcement on June 15, 2012, community-based organizations, DREAMer groups, legal clinics, schools, and religious organizations have worked tirelessly to provide information and to assist young people with DACA applications. These services have been of utmost importance to potential DACA beneficiaries and their families. In addition, community organizations have provided DACA beneficiaries important sources of social capital as well as information on how to access job-related opportunities.

With additional resources, they can do more. In particular, supplemental education programs and workforce development efforts could help to provide DACA-eligible young adults important sources of support that could assist them in pursuing higher education—as well as being competitive in the workforce by accessing programs that develop their skills and lead them to certificates and industry-recognized credentials that lead to employment. These efforts should target younger segments of the population, allowing them to experience their transitions more seamlessly. In addition, workforce development efforts need to target low-income and lesser-skilled young adults, and community outreach efforts will need to target community colleges, where the vast majority of the college-going eligible population attends. And finally, these efforts should not leave behind many of the older young adults within the eligible population. These men and women are the original intended benefactors of DREAM Act efforts, but their circumstances have left them with few options to gain important job skills and experience needed to be competitive in the professional workforce. Internships, on-the-job training, apprenticeships, and other job-training programs that engage employers could greatly benefit this older segment.

Offer Relief for Immigrant Families

Although DACA is an important program, it should be seen as a partial solution. DACAmented young people have lived in the U.S. most of their lives and long to be recognized as full members. What they urgently need is a pathway that will allow them to be recognized as full members. But these young people are also members of families and communities. Their ability to lead successful lives depends greatly on the options available to their parents, siblings, and neighbors. Addressing the untenable circumstances of the 11 million undocumented immigrants (young and old) living in this country is the best way to ensure that the investment made in the lives of these young people will realize its full potential.

ENDNOTES

¹ Deferred Action for Childhood Arrivals (DACA) is an executive memorandum authored by the Obama Administration, and implemented by the Secretary of the Department of Homeland Security, Janet Napolitano. It directs United States Customs and Border Protection (CBP), United States Citizenship and Immigration Services (USCIS), and United States Immigration and Customs Enforcement (ICE) to practice prosecutorial discretion towards certain individuals who came to the U.S. as children and are living in an unauthorized residency status.

² Roberto G. Gonzales, “Learning to be Illegal: Undocumented Youth and Shifting Legal Contexts in the Transition to Adulthood,” *American Sociological Review* 76, no. 4 (2011): 602-619; Leisy J. Abrego, “‘I Can’t Go to College Because I Don’t Have Papers’: Incorporation Patterns of Latino Undocumented Youth,” *Latino Studies* 4, no. 3 (2006): 212–231.

³ Roberto G. Gonzales, *Wasted Talent and Broken Dreams: The Lost Potential of Undocumented Students* (Washington, DC: Immigration Policy Center, American Immigration Law Foundation, 2007).

⁴ In order to qualify for DACA, applicants must have arrived in the U.S. before the age of 16 (and have proof), and must have been under 31 years old and without lawful immigration status when the program was first announced on June 15, 2012. Eligible youth must have resided in the U.S. continuously since June 15, 2007. Applicants must attend school or a GED or other alternative education program, have a high-school diploma or equivalent, or have been honorably discharged from the U.S. Armed Forces or the U.S. Coast Guard. Finally, individuals are barred from receiving DACA if they have been convicted of certain crimes or otherwise pose a threat to public safety or national security. Youth who meet this set of criteria must undergo an application process involving a background check, and pay \$465. Once approved, DACA recipients must apply separately for Social Security Numbers, driver’s licenses, and bank accounts.

⁵ Department of Homeland Security, U.S. Citizenship and Immigration Services, “Number of I-821D, Consideration of Deferred Action for Childhood Arrivals by Fiscal Year, Quarter, Intake, Biometrics and Case Status: 2012-2014,” March 2014.

⁶ NURP is a five-year study comprised of a national online survey and follow-up interviews with DACA-eligible adults living across the United States.

⁷ NURP is a national effort, with a research team that spans the country. Professor Veronica Terriquez of the University of Southern California and her team provided infrastructure and technical assistance with the survey. The survey was carried out during the latter half of 2013. To help ensure that survey participants were eligible to participate in the study, we required them to register for the study in advance of completing the survey. We then sent out survey links to eligible respondents. In addition, we recruited a small proportion of individuals who met the study criteria in hard-to-reach communities directly through organizations without requiring advance registration. We eliminated responses from those we could not verify and from duplicate IP addresses. Given these measures to safeguard our survey from non-eligible or repeat respondents, we

are confident that we have a good sample. Of this larger pool of respondents, we have confidence that 2,684 responses were provided by young people between 18 and 32 who met DACA requirements. Our sampling efforts compare with University of California, San Diego Professor Tom K. Wong and his team’s sample of 1,472 DACA-eligible young adults.

⁸ Findings are based on NURP survey questions that ask respondents if they have, since receiving DACA: a) obtained a new job; b) increased their job earnings; c) obtained an internship; d) opened their first bank account; e) obtained their first credit card; f) obtained a driver’s license; and g) obtained health-care.

⁹ Federal laws do not prohibit banks from serving people who do not have a Social Security Number. However, under the USA PATRIOT Act, banks are required to ask a person’s name, birth date, street address, and an identification number.

¹⁰ These states have worked around the ACA restrictions because they are not using federal funds for the programs.

¹¹ Results are based on logistic regression analyses that investigate how factors traditionally correlated with stratification shape their ability to access the above resources. We assess the role of educational attainment by comparing respondents who have not attended college to those others with different levels of educational attainment.

¹² Although, states are not precluded from offering in-state tuition and state financial aid to DACA recipients or undocumented individuals.

¹³ Jeff E. Hoyt and Bradley A. Winn, “Understanding Retention and College Student Bodies: Differences between Drop-outs, Stop-outs, Opt-outs, and Transfer-outs,” *NASPA Journal* 41, no. 3 (2004): 395-417.

¹⁴ Veronica Terriquez, “Dreams Delayed: Barriers to Degree Completion among Undocumented Community College Students” (unpublished manuscript).

¹⁶ National Skills Coalition, “The Role of Immigrant Integration in Meeting Our Skilled Workforce Needs,” May 2014.

¹⁶ Audrey Singer and Nicole Prchal Svajlenka, *Immigration Facts: Deferred Action for Childhood Arrivals (DACA)* (Washington DC: Brookings Institution, 2013), pp. 1-10; Tom K. Wong, Angela S. García, Marissa Abrajano, David FitzGerald, Karthick Ramakrishnan, and Sally Le, *Undocumented No More* (Washington, DC: Center for American Progress, 2013).

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Becoming DACAmended: Assessing the Short-Term Benefits of Deferred Action for Childhood Arrivals (DACA)

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and Stephen P. Ruszczyk³**

Abstract

In response to political pressure, President Obama authorized the Deferred Action for Childhood Arrivals (DACA) program in 2012, giving qualified undocumented young people access to relief from deportation, renewable work permits, and temporary Social Security numbers. This policy opened up access to new jobs, higher earnings, driver's licenses, health care, and banking. Using data from a national sample of DACA beneficiaries ($N = 2,381$), this article investigates variations in how undocumented young adults benefit from DACA. Our findings suggest that, at least in the short term, DACA has reduced some of the challenges that undocumented young adults must overcome to achieve economic and social incorporation. However, those with higher levels of education and access to greater family and community resources appear to have benefited the most. As such, our study provides new insights into how social policy interacts with other stratification processes to shape diverging pathways of incorporation among the general pool of undocumented immigrants.

Keywords

undocumented young adults, Deferred Action for Childhood Arrivals, immigration policy, illegality, policy implementation, inequality, stratification

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Changes in federal U.S. immigration policies in the 1980s and 1990s have produced a large, settled undocumented population. As a result of increased family settlement, an unprecedented number of children grow up without legal residency status. Policy makers have been slow to respond to their long-term presence. The Development, Relief, and Education for Alien Minors Act (DREAM) Act was first introduced in Congress in 2001 in order to provide a pathway to citizenship to certain undocumented immigrants who migrated as children. With legalization efforts stalled, mounting pressures pushed President Obama to initiate the Deferred Action for Childhood Arrivals (DACA) program on June 15, 2012. This change in his administration's enforcement policy temporarily defers deportation from the United States for eligible undocumented youth and young adults, estimated at 1.9 million in 2013 (Batalova, Hooker, Capps, Bachmeier, & Cox, 2013). Furthermore, it offers these young people temporary Social Security numbers and 2-year work permits. Although DACA does not offer a pathway to legalization, it has the potential to improve the incorporation and mobility trajectories of eligible youth.

A burgeoning body of research over the past several years has sought to understand the untenable circumstances of undocumented immigrants who come to the United States as children (Abrego, 2006, 2008, 2011; Gonzales, 2010, 2011; Gonzales & Chavez, 2012; Greenman & Hall, 2013; Terriquez, 2014). However, to date, much of this research has consisted of studies with limited sample sizes (Abrego, 2006, 2008, 2011; Enriquez, 2011; Gonzales, 2010, 2011; Gonzales & Chavez, 2012; Terriquez, 2014). And although researchers have sought to understand how varying educational pathways differently structure undocumented life, systematic evidence exploring different types of stratification among this population has been limited. Meanwhile, a larger body of research studying the incorporation patterns of today's children of immigrants may provide some important clues (Alba & Nee, 2003; Kasinitz, Mollenkopf, Waters, & Holdaway, 2009; Portes & Rumbaut, 2001). In particular, this scholarship argues that today's immigrants and their children are following different pathways of incorporation, channeling them into various segments of the U.S. economy. These ideas provide some useful lenses through which to examine the interplay between undocumented youths' personal characteristics and their ability to take advantage of DACA's benefits.

How are some immigrant youth responding to their new "DACAmended" status? And are there particular individual, family, and community factors that better position some of these young people to take advantage of the benefits? Drawing on national survey data collected from 2,381 DACA beneficiaries in 2013, the largest data collection effort to date on this population, this article investigates variations in economic and social incorporation among this generally disadvantaged population. In doing so, it explores how DACA's benefits vary based on the postsecondary, family, and community resources these young adults have at their disposal. Our findings suggest that, at least in the short term, DACA is reducing some of the challenges undocumented young adults must overcome to achieve economic and social incorporation. However, our findings also point to disparities in how this diverse population of young people is able to obtain new resources that advance their incorporation. Whereas young adult

DACA beneficiaries with significant educational and community resources appear best positioned to benefit from DACA, those with fewer resources appear to gain less.

Strained and Segmented Pathways

Although immigration scholars often positively assess the incorporation prospects of many of today's children of immigrants (Bean & Stevens, 2003; Kasinitz et al., 2009), not all fare equally well. Researchers generally agree that a lack of legal status presents a formidable impediment to assimilation for undocumented youth (e.g., Alba, Jiménez, & Marrow, 2014; Alba & Nee, 2003; Kasinitz et al., 2009; Portes & Rumbaut, 2001; Zhou et al., 2008). Indeed, most children of immigrants are able to use the educational system, ethnic organizational resources, and work opportunities to build on their parents' resources. But for undocumented youth, their legal status constrains "virtually every aspect of [their] incorporation" (Rumbaut & Komaie, 2010, p. 63), stagnating them in the lower class (Terriquez, 2014). As this scenario suggests, exclusion experienced by undocumented persons is multidimensional (see Abrego, 2011; Dreby, 2012; Menjivar & Abrego, 2012). It affects family life, health care (Castañeda & Melo, 2014), housing conditions (Oliveri, 2009), and romantic relationships and fills everyday experiences with anxiety, fear, and stress (Gonzales, Suárez-Orozco, & Dedios-Sanguinetti, 2013; Szkupinski Quiroga, Medina, & Glick, 2014). Legal exclusions also constrain many mundane, yet critical, aspects of adolescent and adult life.

Most young adults in the United States aspire to some type of postsecondary education. However, those who are undocumented must overcome multiple challenges to enroll in and persist in college (see Martinez, 2014; Terriquez, in press). Without access to federal or most state financial aid, undocumented youth face heavy financial burdens. They are also excluded from work, study opportunities, and paid internships. Many majors and fields of study often require hands-on participation outside the classroom. Oftentimes, these internships require Social Security numbers to process hiring and background checks, thus excluding undocumented youth from gaining applied skills and expanding professional networks (Knouse, Tanner, & Harris, 1999). In these multiple ways, "illegality" has a particularly negative impact on the economic and social incorporation of undocumented youth.

A growing number of studies over the past few years have done significant work in uncovering the contextual factors most salient in framing and constraining everyday life for undocumented youth (Abrego, 2006, 2008, 2011; Gleeson & Gonzales, 2012; Gonzales, 2010, 2011; Menjivar & Kanstroom, 2013; Suárez-Orozco et al., 2011; Terriquez, in press). Although the popular media have focused on the disadvantages a lack of legal status poses to the pursuit of higher education, many undocumented youth face additional challenges. Employment options, for example, are generally limited to low-wage jobs that offer meager wages and few opportunities for job growth. Many undocumented youth are doubly disadvantaged in these situations, as employers frequently pass them over in favor of older migrants who are less likely to refuse tasks or to make worker rights claims (Gans, 1992; Gleeson, 2010; Gonzales, 2011).

A lack of legal status also limits spatial mobility. Without access to driver's licenses, undocumented youth risk apprehension, deportation, and accompanying family separation by driving to work or school (Stuesse & Coleman, 2014). These practices sow feelings of anxiety and stress, leading to challenged mental health and well-being (Gonzales et al., 2013). For those living outside of large metropolises with extensive public transportation systems, slower, less efficient transportation options limit their access to work and work schedule flexibility.

Undocumented immigrants are also vulnerable to robbery, in part because they tend to carry cash with them (Bellamy, 2007; Thornton, 2010). Although banking practices reduce this threat, the use of banks among undocumented immigrants remains low (Perry, 2008). Undocumented immigrants can be intimidated from applying for a bank account or credit card because financial institutions often request U.S. identification and a Social Security number (Coyle, 2007).

For socioeconomically disadvantaged immigrants, social networks play an all-important role in relaying key information about jobs, ethnic resources, and legalization opportunities (Hagan, 1998). Networks of family, friends, and acquaintances can lower the cost of legal and social incorporation by providing information, emotional and cultural support, and connection to local organizations. However, the social networks of undocumented immigrants may be weakened by a lack of material resources and the precariousness that accompanies legal status (Menjívar, 2000).

Although the effects of undocumented status are broad, the "condition of illegality" (De Genova, 2004) is not experienced uniformly. Differences in institutional experiences at different points along the life course, for example, instill different logics of inclusion. Whereas adult migrants tend to have limited access to mainstream American institutions, those who arrive in the United States as minors and enroll in the K–12 school system have greater levels of integration into public institutions than those who migrate primarily for the purpose of finding work (Gleeson & Gonzales, 2012). However, as these young people grow older, the thick sense of "illegality" produced by policies governing access to social institutions associated with adulthood—especially postsecondary education, work, banking, and driving—quickly replaces this relative inclusion as these young people experience an "awakening to a nightmare" (Gonzales & Chavez, 2012). However, those connected to extrafamilial support can leverage local resources to delay the "transition to illegality" (Gonzales, 2010, 2011).

Immigrant incorporation varies according to the financial, human, and social capital immigrants possess (Alba & Nee, 2003). This important observation underscores the empirical reality that immigrants—legal and undocumented alike—vary along a number of dimensions, including income, skills, and access to resources (to name a few). But until now, studies of undocumented immigrant young people have been unable to assess the effects of human, financial, and social capital on their differential abilities to access resources. By providing forms of widened access, DACA has the potential to open up numerous possibilities to undocumented young adults. However, it may also expose layers of inequality that shape DACA recipients' ability to take advantage of these benefits. In this article, we provide new insights into stratification processes shaping diverging trajectories among an otherwise disadvantaged population.

Scope of DACA

As an executive memorandum that shifts bureaucratic practice in U.S. Customs and Border Protection, U.S. Customs and Immigration Services (USCIS), and U.S. Immigration and Customs Enforcement, DACA has limited inclusionary power; it does not offer a pathway to citizenship or other legal status. It creates 2-year (renewable) prosecutorial discretion with regard to deportation. Its recipients can receive work authorization and apply for a Social Security card.

DACA's benefits derive from the legal distinction between *lawful presence* and *lawful status*. Normally when one has unlawful status, one accrues unlawful presence (USCIS to Field Leadership, 2009). Although DACA does *not* confer a lawful status, which would allow access to federal financial aid, DACA recipients have lawful presence, interpreted as a temporary authorization by the Department of Homeland Security to be in the United States. (USCIS, n.d.), which avails access to certain privileges. For example, 45 states have taken action to allow DACA recipients to apply for a driver's license (National Immigration Law Center, 2013).

DACA Qualification Criteria

To qualify, applicants must have arrived in the United States before the age of 16 years (and have proof) and must have been younger than 31 years when the program began on August 15, 2012. Eligible youth must have resided in the United States continuously for the past 5 consecutive years. Finally, applicants must attend high school or a GED program, or have a high school diploma or equivalent. Youth who meet those criteria must undergo a lengthy application process and pay \$465. Once approved, DACA recipients must apply separately for Social Security numbers, driver's licenses, and bank accounts.

These criteria and processes likely exclude certain undocumented young people (Batalova et al., 2013). Estimates by Wong et al. (2013) indicate that within the first year of implementation, approximately 61% of those immediately eligible for DACA had applied. Notably, USCIS approved over 98% of processed applications. The proportion of potential applicants that applied varied significantly by state, although state policy climates did not affect application rates. Legal clinics as well as religious, civic, immigrant, and educational organizations appeared to play an important role in helping some young people obtain DACA, and perhaps benefit from the limited rights it provides its beneficiaries (Wong et al., 2013).

Diversity Among DACA Recipients

Having spent some portion of their childhood in the United States, DACA eligible youth have, to varying degrees, become integrated into this country's institutions. Therefore, their educational attainment—as well as demographic characteristics that typically structure immigrant incorporation, along with ties to community organizations—could generate group differences in how they use their DACAmented status to improve their employment options and obtain other resources in the short term.

DACA beneficiaries' educational attainment could play a particularly strong role in determining the types of opportunities they pursue in the short term. Given the importance of higher education in expanding job options, undocumented youth who have attended college, especially 4-year institutions, may be better positioned to leverage their education to pursue better jobs with higher earnings. Perhaps most notably, those with bachelor's degrees may apply for jobs commensurate with their credentials (Gonzales, 2011). Meanwhile, those with less education, while disadvantaged in the labor market relative to their more educated peers, may prioritize other financial or social benefits (i.e., bank accounts, credit cards, health care) that they may not have accessed prior to obtaining DACA.

Because family socioeconomic background tends to be a strong predictor of young people's outcomes (Portes & Rumbaut, 2001; Terriquez, 2014), parents' educational, financial, and other resources may have an independent effect on how young immigrants can take advantage of DACA in the short term. As such, undocumented young adults with college-educated and higher income parents are likely to possess the networks to improve their employment options, but parental resources may provide them with other types of access as well.

A related factor may pertain to the social status of the coethnic community. Because Mexican migrants tend to possess fewer skills and arrive with limited resources (Feliciano, 2008), their communities may offer young adult members fewer mobility opportunities compared to other groups. Additionally, because of cultural or other reasons, Mexicans exhibit low uptake of government (Van Hook & Bean, 2009) and other institutional resources (Perry, 2008), including health care (Castañeda & Melo, 2014). We therefore might expect that Mexican young adults will encounter greater obstacles to taking advantage of some DACA benefits when compared to other groups. Conversely, some Asian immigrant groups arrive with more resources that they sometimes pool together to further youths' social and economic incorporation (Zhou & Kim, 2006).

Gender and age often structure young immigrants' incorporation patterns. For example, young men in immigrant families tend to experience greater pressures to provide economic or other social resources for their families, while women may be expected to provide direct care and assist with household chores (Smith, 2006). Meanwhile, age correlates with the assumption of adult responsibilities (Rumbaut, 2004), which may, in turn, determine the types of benefits young adults prioritize.

Because civic associations can facilitate immigrant incorporation (Ramakrishnan & Bloemraad, 2011; Terriquez & Kwon, 2014), undocumented youth who are connected to immigrant organizations may be well-positioned to take advantage of some of the key benefits of DACA. As a result, members of immigrant organizations may have greater access to information and technical assistance to effectively and efficiently access some resources. Through these civic groups, such youth may also benefit from expanded social networks, including those that offer peer-to-peer support (Terriquez, Rivera, & Patler, 2013), as well as those that may connect them to labor market opportunities (Rosenbaum, DeLuca, Miller, & Roy, 1999).

Our Study

This study builds on a growing body of research documenting the exclusions experienced by undocumented immigrants who arrive as children. Our investigation focuses on DACA-eligible young adults between 18 and 32 years who have transitioned to illegality and lack the educational and social protections that minors enjoy (Gonzales, 2011). These young adults, to varying degrees, have pursued employment, postsecondary education, or both, and are likely to differ in how they benefit from DACA.

We therefore examine the experiences of young people who received DACA within the first 16 months of implementation. We account for the community and family resources these young adults utilized in order to obtain assistance with the DACA application process, and we explore how they have benefited from this initiative in the short term. Furthermore, our investigation examines the ways in which young adults' postsecondary educational attainment, family socioeconomic background, coethnic community, gender, age, and ties to immigrant organizations correspond with the types of resources they obtain. This study breaks new ground by uncovering how social policy interacts with other stratification processes to shape diverging pathways of incorporation among undocumented young adults.

The NURP Survey

Our investigation relies on survey data from the National UnDACAmented Research Project (NURP), the first national survey of DACA recipients. The NURP survey includes data from 2,684 undocumented young adults who received deferred action, as well as those who may have been eligible for DACA but did not apply or who applied and were still awaiting a response.¹ However, our analysis here focuses only on the 2,381 individuals who had received DACA by the time they took the survey.

Data were collected in 2013 through a web survey of young adults between 18 and 32 years who were eligible to receive DACA. Survey respondents were recruited through a multistage process. First, with the assistance of a team of research assistants and consultants with ties to community organizations across the country, we recruited potential participants through "gateway" points, including immigrant service agencies, law offices, churches, schools, universities, and local and national undocumented young adult organizations. To recruit harder-to-reach individuals, we supplemented these efforts by snowball sampling relatives, friends, and neighbors of initially recruited study subjects. To help ensure that survey participants were eligible to participate in the study, we required them to register for the study in advance of completing the survey. We then sent out survey links to eligible respondents. We also recruited a small proportion of individuals who met the study criteria in hard-to-reach communities directly through organizations without requiring advance registration.

It is difficult to obtain survey data from undocumented populations because of they comprise a fairly small proportion of the U.S. population, their legal vulnerability, and their low-income background (Bloch, 2006). Surveying them through random dialing methods, respondent driven sampling, or other types of probability sampling can be

quite costly, and sometimes cost-prohibitive, especially on a national scale. We therefore relied on a sample drawn through efforts described above to learn about the short-term benefits and limits of DACA on the lives of some beneficiaries. Our sample excludes individuals who do not have access to the Internet, and it likely contains limited representation of less educated individuals who are not savvy computer users (Schonlau, van Soest, Kapteyn, & Couper, 2009). Moreover, our sample is also less representative of individuals who lack connections to organizations used to recruit study participants. We therefore discuss how our sample compares to national samples of DACA applicants (Singer & Svajlenka, 2013; Wong et al. 2013) and to estimates regarding the population of undocumented young people more broadly (Batalova et al., 2013; Greenman & Hall, 2013).

Our Plan of Analysis

Below we provide a geographic and demographic description of our sample. Then, we share results regarding DACA application assistance. Respondents were asked to list one or more sources of assistance with the application process. Response options included community-based organizations, legal clinics, schools or colleges, religious institutions, and “other” sources. (Most who marked “other” indicated that they had received help from private attorneys.) We also identify individuals who received help from family members or friends but did *not* receive assistance from other sources. Analyses provide insight into how young people use the civic and legal infrastructure, or simply turn to family and friends, in order to successfully navigate this bureaucratic process.

Next, we show descriptive statistics listing the types of economic and other social resources study participants accessed. Findings are based on NURP survey questions that ask respondents if they have, since receiving DACA (a) obtained a new job, (b) increased their job earnings, (c) obtained an internship, (d) opened their first bank account, (e) obtained their first credit card, (f) obtained a driver’s license, and (g) obtained health care. Recent research on undocumented young adults (see Menjivar & Kanstroom, 2013) identifies limited work experiences, limited access to driving, and limited institutional participation as important effects of “illegality.” Notably, we cannot be certain that respondents benefited from these new resources because of DACA; benefits could have been obtained simply as a result of the passage of time and expanded social networks since DACA was implemented. However, given the role of this policy in granting its beneficiaries Social Security numbers and work permits, we believe that DACA played a strong role in determining access to the resources examined in this study.

Finally, we present results of logistic regression analyses that investigate how factors traditionally correlated with stratification—young adults’ educational attainment, family socioeconomic background, demographic characteristics, and ties to immigrant organizations—shape their ability to access the above resources. We assess the role of educational attainment by comparing respondents who have *not* attended college to those with different levels of educational attainment. We account for DACA

recipients' family socioeconomic background using two measures that can predict the patterns of young adults' incorporation: (a) parent education, determined by whether or not the respondent had a parent with a bachelor's degree, and (b) low-income background, determined by whether the respondent was eligible for free or reduced-price lunch in high school (Terriquez, 2014). Because of differences in patterns of incorporation across ethnic groups (Feliciano, 2008; Portes & Rumbaut, 2001; Zhou & Kim, 2006), we explore whether Mexicans differ from immigrants from other parts of Latin America and the Caribbean, Asia and the Pacific Islands, and other parts of the world (Europe, Africa, and Canada combined) in terms of obtaining benefits. We recognize that immigrants' experiences vary greatly within these broadly defined regions, but, with the exception of Mexico, the numbers of NURP study participants from all other countries are too small for meaningful analysis.² Regressions account for gender and age, key factors that shape transitions to adulthood (Feliciano, 2012; Rumbaut, 2004).³ Last, because civic groups can facilitate incorporation (Ramakrishnan & Bloemraad, 2011; Terriquez & Kwon, 2014), we consider whether respondents' ties to immigrant organizations predict whether respondents access benefits. We do so by identifying individuals who reported volunteering for an immigrant organization within the last year.

Becoming DACAmented

Sample Characteristics

As shown in Table 1, approximately 45% of our sample comes from the Western United States, 14% from the South, 16% from the Northeast, and 26% from the Midwest. In comparison, among applicants during the first year of DACA implementation, 42% came from the West, 35% from the South, 11% from the Northeast, and 12% from the Midwest (Wong et al. 2013).

Although our samples of young immigrants from other parts of Latin America, the Caribbean, Europe, Africa, and Canada generally correspond with the regional makeup of early DACA applicants (Singer & Svajlenka, 2013), Mexicans are somewhat underrepresented in our sample. Sixty-eight percent of NURP survey respondents hail from Mexico compared to more than three quarters of early DACA recipients. Meanwhile, Asian/Pacific Islanders make up 10% of our sample, but were only 4% of early recipients.

Our sample appears to exhibit high levels of educational attainment, compared to undocumented young adults at large (Passel & Cohn, 2009). A fifth of the sample has not attended college, while 32% have attended a community college, and 27% have attended a 4-year college or university but have not graduated. Twenty-two percent of our sample possesses a bachelor's degree. We cannot determine how our sample compares with the educational attainment of the pool of DACA applicants because USCIS does not collect data on educational attainment. However, as reflected in our broader NURP sample, which includes nonrecipients, we suspect that those who have received DACA are more educated than the total eligible population (Greenman & Hall, 2013).

Table 1. Descriptive Statistics for DACA Respondent Sample.

U.S. region of residence	
West	0.45
South	0.14
Northeast	0.16
Midwest	0.26
Region of origin	
Mexico	0.68
Other Latin America/Caribbean	0.19
Asia/Pacific Islands	0.10
Other ^a	0.03
Educational attainment	
No college	0.20
Attended community college	0.32
Attended 4-year college	0.27
Obtained bachelor's degree	0.22
Family socioeconomic background	
Has parents with a bachelor's degree	0.36
Low-income family	0.73
Gender	
Male	0.39
Female	0.61
Average age (minimum 18, maximum 32 years)	22.60
Member of immigrant organization	0.44
Received assistance with DACA application	0.89
Source of assistance with application ^b	
Community-based organization ^b	0.22
Legal clinic	0.28
School/college	0.09
Religious institution	0.07
Private attorney	0.15
Other	0.04
Family/friend (no support from any of the above sources)	0.23
Resources accessed since obtaining DACA	
Obtained new job	0.59
Increased job earnings	0.45
Obtained internship	0.21
Opened first bank account	0.49
Obtained first credit card	0.33
Obtained driver's license	0.57
Obtained health care	0.21

Note. DACA = Deferred Action for Childhood Arrivals. *N* = 2,381.

Source. National UnDACAmented Research Project 2013.

^aIncludes individuals from Canada, Europe, and Africa. ^bRespondents may have selected more than one source of support.

A significant portion of NURP survey respondents likely benefit from their parents' human capital, as 36% report having at least one parent with a bachelor's degree. At the same time, nearly three quarters of our sample come from low-income family backgrounds and were eligible for free or reduced-price lunch while they were still in high school. Although not noted in Table 1 because of space limitations, respondents' socioeconomic background varies significantly by region of origin. In line with prior research (Alba & Nee, 2003; Portes & Rumbaut, 2006), Mexicans come from the most disadvantaged background, whereas those from Asia/Pacific Islands and other regions (Canada, Europe, Africa) tend to come from relatively more privileged socioeconomic backgrounds. Other Latin Americans and Caribbean respondents fall somewhere in between.

Women comprise 61% of the sample. This can be attributed in part to higher response rates among women typical of survey-based studies (Sax, Gilmartin, & Bryant, 2003). The representation of women in this sample may also result from their high levels of involvement in immigrant rights organizations (Milkman & Terriquez, 2012) and their greater representation among the college-going population (Feliciano, 2012). These two factors may contribute to women's greater likelihood of applying for DACA. The average age of the NURP sample is 22.6 years. This average age is higher than that of the larger pool of DACA recipients (Singer & Svajlenka, 2013), in large part because the sample excludes DACA-eligible recipients younger than 18.

Finally, 44% of our sample has participated in an immigrant organization. This percentage is high because we relied on such organizations to assist with recruitment of DACA recipients.

Assistance With DACA Application

The middle panel of Table 1 provides information on the assistance survey respondents received with their DACA application. Importantly, nearly 9 out of 10 respondents received some assistance. This finding points to the importance of civic organizations, legal assistance, and other social networks in helping young people through the application process.

Among NURP respondents, a sizeable segment turned to a community organization (22%) for assistance. Perhaps not surprisingly, this option was most often pursued among members of immigrant civic groups who likely tapped into their organizations for assistance (results not shown). Notably, another 28% obtained assistance through legal clinics that were likely made available by advocacy groups. Respondents received assistance filling out their DACA applications from other institutions.

Whereas 9% reported that they received assistance from their school or college, another 7% did so through a religious institution. These findings shed light on how community institutions serve as spaces of information sharing and trust, supporting immigrant integration.

Notably, 15% of NURP survey respondents relied on private attorneys to assist with applications. Applicants likely had to pay for these services in addition to the application fee. Such professional assistance may be cost-prohibitive for some undocumented

immigrant young adults. Additional analysis not shown indicates that professional attorneys were most often used among young people who had not participated in immigrant organizations. The suggestion here is that young immigrants who did not have access to community-based organizations disproportionately turned to private attorneys for assistance.

It is worth noting that another 23% of respondents who did not receive assistance from neither a civic institution nor a private attorney turned to family members or friends to help them with applications. That is, a significant portion of DACA recipients in this sample relied on individuals in their social networks who had the appropriate information and capacities to assist with this process.

Benefits of DACA

The bottom panel of Table 1 lists some key economic and other resources that NURP study participants may have accessed since receiving DACA. Results demonstrate that many have taken steps toward becoming economically and socially integrated into U.S. institutions. Importantly, findings suggest that DACA has expanded and improved recipients' employment options. Over half (59%) of survey respondents obtained a new job, and a significant portion (45%) increased their job earnings.

Just over one fifth of NURP respondents obtained an internship, which likely provides some valuable career training not typically available in jobs for young adults with limited employment histories. Almost half of survey respondents obtained their first bank account since receiving DACA. Although undocumented immigrants are not necessarily prohibited from possessing a bank account, the receipt of a Social Security number through DACA allows young people to overcome bureaucratic hurdles and sometimes awkward or uncomfortable situations when trying to open a bank account. Similar hindrances apply to obtaining a credit card. A third of respondents acquired their first credit card. Just over half obtained a driver's license, which has likely widened educational, employment, and other options for these young adult immigrants. Twenty-one percent of those surveyed have obtained health care since receiving DACA, perhaps due to new employment-based plans or to greater facility in providing documentation to clinics and hospitals.

Stratification in the Uptake of DACA Benefits

Table 2 shows logistic regressions that examine group variations in how NURP respondents benefit from DACA in the short term. Recipients' educational attainment correlated with the benefits they obtained. Notably, after accounting for other variables in the model, those who had already attained a bachelor's degree were significantly more likely to obtain a new job ($p < .001$), increase their earnings ($p < .001$), and secure an internship ($p < .05$) when compared to those who never went to college. As such, findings suggest that those with college degrees were able to better use their credentials in the job market. Meanwhile, after controlling for other factors, 4-year college students enjoyed 1.8 ($p < .001$) higher odds of obtaining an internship, relative to their peers

Table 2. Odds Ratios for Logistic Regression Models Predicting Access to New Resources Among DACA Recipients.

	New job	Earnings	Internship	Bank account	Credit Card	Driver's license	Health care
Educational attainment (reference high school degree or less)							
Community college	1.21 (0.15)	1.08 (0.13)	0.92 (0.15)	0.71** (0.09)	0.66** (0.09)	1.00 (0.12)	0.57*** (0.08)
4-year college	1.14 (0.15)	1.08 (0.14)	1.78*** (0.29)	0.52*** (0.07)	0.64** (0.09)	0.90 (0.12)	0.50*** (0.08)
Bachelor's degree	1.63*** (0.24)	1.64*** (0.23)	1.51* (0.27)	0.38*** (0.06)	0.92 (0.14)	1.20 (0.18)	1.07 (0.17)
Family socioeconomic background							
Parent with BA ^a	1.08 (0.11)	1.09 (0.11)	1.32* (0.16)	1.20 (0.12)	1.16 (0.12)	0.99 (0.10)	1.26 (0.15)
Low-income family ^b	0.83 (0.09)	0.76** (0.08)	0.65*** (0.08)	0.76** (0.08)	0.67*** (0.07)	0.65*** (0.07)	0.47*** (0.06)
Country of origin (reference Mexico)							
Other Latin American/ Caribbean	1.11 (0.13)	1.29* (0.15)	0.96 (0.14)	1.32* (0.16)	1.17 (0.14)	1.39** (0.17)	1.23 (0.17)
Asia/Pacific Islander	0.72* (0.11)	0.86 (0.14)	2.16*** (0.37)	1.45* (0.24)	1.46* (0.24)	0.82 (0.13)	1.14 (0.21)
Other	0.70 (0.16)	0.63 (0.16)	1.34 (0.37)	1.86* (0.48)	0.89 (0.22)	0.84 (0.20)	0.82 (0.23)
Demographics							
Female	0.92 (0.08)	0.99 (0.09)	0.85 (0.09)	0.89 (0.08)	0.81* (0.07)	0.72*** (0.06)	0.90 (0.10)
Age	0.96** (0.01)	1.02 (0.01)	0.97 (0.02)	0.89*** (0.01)	1.02 (0.02)	1.07*** (0.02)	1.05** (0.02)
Member of immigrant organization	1.20* (0.10)	1.17 (0.10)	2.19*** (0.23)	0.92 (0.08)	0.66*** (0.06)	0.89 (0.08)	1.00 (0.11)

Note. DACA = Deferred Action for Childhood Arrivals. $N = 2,381$.

Source. National UnDACAmented Research Project 2013.

^aReference: parent(s) has less than a bachelor's degree.

^bReference: from middle/upper income background.

* $p < .10$. ** $p < .05$. *** $p < .01$. *** $p < .001$, two-tailed test.

without any college education. It is likely that these college students secured internships through their postsecondary institutions.

Interestingly, when compared to those without any college education, those who have attended or graduated from college were less likely to open a bank account, perhaps because some already had accounts prior to receiving DACA. Enrollment in community and 4-year colleges similarly corresponded with lower likelihoods of obtaining a first credit card and health services. Perhaps these students accessed a bank account prior to receiving DACA, and some may have obtained health care through their college or university.

Young people from higher socioeconomic statuses were more likely to access some benefits when compared to peers who grew up with fewer socioeconomic resources. Specifically, having a parent with a bachelor's degree was positively associated with obtaining an internship ($p < .05$). Perhaps college-educated parents, understanding the

value of an internship and not dependent on their children's earnings, may have encouraged their young adult children to obtain such a position, even if unpaid. Meanwhile, with the exception of obtaining a new job, those from low-income backgrounds were notably less likely than their peers from middle/higher income backgrounds to access all other resources. As such, this finding suggests that family economic disadvantage hampered young people's abilities to use DACA for their own benefit in the short term.

Regressions explore whether Mexicans (our reference group) differed from DACA recipients hailing from other parts of the world in terms of whether they obtained benefits. Perhaps because of the average higher socioeconomic statuses of their co-ethnics (Feliciano, 2008), other groups found themselves in better positions to gain from DACA. For example, when compared to Mexicans, other Latinos/Caribbeans were more likely to increase their earnings, open a bank account, and obtain a driver's license, after controlling for other correlates. Asian/Pacific Islanders were particularly likely to obtain an internship, open a bank account, and acquire a credit card when compared to Mexicans. Individuals from other parts of the world (Canada, Europe, and Africa) were also more likely than Mexicans to open a bank account. It is possible that Mexicans disproportionately distrusted banks or lived in communities that lack access to banking institutions.

Results show only a couple of gender differences in how survey respondents benefited from DACA in the short term. Specifically, men were more likely than women to obtain credit cards and driver's licenses, after controlling for other factors. Social expectations for men to be providers and to offer transportation to women partners and family members may have contributed to these patterns (Dreby, 2010; Smith, 2006). Additionally, age negatively correlated with obtaining a new job and opening a first bank account, so that younger DACA recipients were more likely to obtain such benefits. Older recipients may have figured out how to open a bank account prior to receiving DACA or have learned how to adjust without one (Gonzales, 2011). Age was positively associated with obtaining a driver's license and health care, patterns that likely parallel those of nonimmigrant young adults.

As might be expected, young adults who participated in immigrant organizations were particularly likely to reap some of the job-related benefits of DACA. Specifically, when compared to nonparticipants, those involved in immigrant organizations were 1.2 ($p < .05$) times more likely to obtain a new job and 2.2 ($p < .001$) times more likely to obtain an internship, after accounting for other covariates. Active in immigrant civic groups, these young people likely possessed the social networks and information on how to access job-related opportunities. Relatedly, these respondents may have also been highly motivated individuals who have learned how to advocate for themselves. Interestingly, those involved in immigrant organizations were less likely than others to apply for their first credit card ($p < .001$), after controlling for other variables in the model. As potentially well-networked individuals, some of these youth may have enjoyed such financial resource prior to receiving DACA or may have accessed alternative forms of credit through their social ties.

Discussion and Conclusion

In the absence of a pathway to citizenship, hundreds of thousands of undocumented youth have made difficult “transitions to illegality” (Gonzales, 2011) as they have reached adulthood. Although DACA does not address many of the problems these young people confront, such as blocked access to financial aid for college, it does allow scholars, policy makers, and community members the opportunity to better understand the effects of policies that aim to widen access for undocumented populations and how that access is differently shaped. Immigration scholars studying the incorporation patterns of the children of immigrants have noted that modes of incorporation vary according to material and social networks. The experiences of our DACAmented respondents shed some needed light on the important role played by immigration policy in shaping incorporation patterns, particularly for those who already benefit from postsecondary, family, or community resources.

Immigration scholars have long touted the relationship between acculturation and structural assimilation. However, for undocumented youth, as Leo Chavez (1994) previously pointed out, incorporation often depends on society’s willingness to include them. DACA represents a potential turn in that direction. Beginning with the introduction of the DREAM Act in 2001, a narrative of “wasted talent” has been a consistent thread in the policy discussions pertaining to these young men and women. A compelling talking point in support of more inclusive policy is the claim that high-achieving “DREAMers” would, if given the right opportunities, maximize their potential and see great returns on their education.

In line with this assumption, our findings suggest that after DACA’s first 16 months, its beneficiaries experienced greater access to U.S. institutions, enabling them to better achieve their potential. The DACAmented young adults we surveyed have overcome several of the elements of exclusion they previously faced in their “transition to illegality.” Since receiving DACA, many have obtained new jobs and internships. Some have also opened bank accounts and obtained credit cards. Additionally, because of new state measures reconfiguring eligibility, many have also obtained driver’s licenses—which has likely widened educational, employment, and other options for these young adult immigrants. And although the Affordable Care Act does not guarantee health insurance to DACA recipients, a significant share of our respondents have reported obtaining health care since receiving their DACA paperwork. We suspect this may be the result of recent state health care efforts and increased access to postsecondary institutions and the formal labor market. Taken together, these nontrivial points of access have importantly opened up a range of opportunities for DACA beneficiaries.

Our data come from a sample of young people who are disproportionately connected to immigrant organizations and are highly educated. As such, our findings should be interpreted with caution. However, even though our study may not draw from a representative sample of DACAmented youth, it does allow us to pursue previous lines of inquiry, not before captured in studies with smaller samples. Although DACA recipients share a common immigration status that has excluded them from full membership in U.S. society, our findings contribute to a broader body of literature that identifies factors

that generate unequal incorporation pathways among the young adult children of immigrants (Kasinitz et al., 2009; Portes & Rumbaut, 2001; Terriquez, 2014; Zhou et al., 2008). Having enjoyed some portion of their childhood in the United States, these young people, to varying degrees, have become integrated into an array of U.S. institutions. It comes as little surprise that their ties to community and education institutions—as well as demographic characteristics that typically structure immigrant incorporation—are generating differences in how they leverage their temporary status to improve their employment options and obtain other resources in the short term.

Our findings suggest that the ability to take advantage of DACA, to some degree, is based on the interplay between a DACAmented status and resources our respondents have previously accessed through their postsecondary educational institutions, families, ethnic communities, or community organizations. To be sure, those with fewer advantages benefited from DACA more than others in accessing some new resources. However, our analyses point to some potential patterns of persisting inequality, particularly for Mexican beneficiaries. Yet DACA is still a relatively new program, and our respondents have only recently started to experience lives of widened access. With time, this broader access may have diminished these inequalities, but the effects of uneven social networks may have also increased them.

The newfound legitimacy and security offered through DACA may positively affect emotional well-being. For many of these young people, this policy represents an affirmation of legitimacy, and the 2-year stays of deportation can ease some of their fears of apprehension, detention, and deportation. Taken together, the relief from enforcement and the powerful symbolic function of DACA should mitigate some anxieties and fears about deportation, thus lessening the negative aspects of the condition of illegality.

As a result of DACA, some previously out-of-reach work sectors may open up to this group. With new work opportunities and driver's licenses we might expect, for example, to see a boost in college access, retention, and completion along with a reactivation of educational dreams and aspirations as DACAmented young adults learn to be *legal*. Certainly, DACA provides important opportunities for its beneficiaries to take jobs and paid internships, allowing them the legal means through which to advance their career aspirations. This sense of inclusion may also expand their claims making—they may trade the label *undocumented* for *DACAmented* (see Abrego, 2008). Alternatively, increased opportunities may have demobilized many of those formerly fighting for the DREAM Act.

DACA is not a permanent solution. And it raises additional questions regarding its future as a policy and its potential to shape liminal lives for those who may fall out of status, even briefly, during renewal periods. Presently, some of the limitations of this program are clear. DACA is, at best, a second-class status. It does not offer its beneficiaries any form of legal status nor a pathway toward legality. It also does not reconcile the steepest barriers to postsecondary education; federal aid is off-limits to all undocumented immigrant students, including those with DACA. Although a handful of states have passed legislation in recent years to provide access to in-state tuition and state financial aid, the majority of states have no such policies. Access to jobs may alleviate

some of the difficulty associated with financing college. However, completing college may be difficult for many because of rising tuition costs and limited means to supplement earnings.

In conclusion, it is worth noting that previous research analyzing USCIS DACA applications has shown that a large segment of the DACA-eligible population did not apply (Singer & Svajlenka, 2013). In light of our findings, it will be important to keep track of this population as they risk becoming part of an “unDACAmended” underclass (being undocumented and also lacking DACA), composed of the most disadvantaged young adults, particularly those of Mexican origin, who will continue to encounter significant barriers to their social and economic incorporation. Although many may use their DACA status to obtain better jobs, increase earnings, and legally access driver’s licenses and health care, those lacking DACA may experience greater legal, educational, and social exclusion.

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Notes

1. Those who had not received DACA tended to have somewhat lower levels of educational attainment than DACA recipients.
2. It should be noted that beside Mexicans, no other country makes up a double-digit share of the undocumented population (Passel & Cohn, 2009).
3. Age was missing and imputed for 0.5% of cases. Imputations do not change results presented here.

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The Long-Term Impact of DACA: Forging Futures Despite DACA's Uncertainty

Findings from the National UnDACAmented Research Project (NURP)

Roberto G. Gonzales | Sayil Camacho | Kristina Brant | Carlos Aguilar

Immigration Initiative at Harvard
Special Report 1, 2019



Immigration
Initiative
AT HARVARD

NURP
NATIONAL UNDACAMENTED
RESEARCH PROJECT
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Executive Summary

For decades, undocumented youth who have grown up in the United States have entered adulthood encountering steep barriers to educational, economic, and social opportunities. Due to congressional inactivity on immigration, these young people have been forced to put their lives on hold. This changed in June of 2012 with the introduction of the Deferred Action for Childhood Arrivals (DACA) program, an administrative policy which offers eligible young people work authorization and temporary protection from deportation. Since 2012, more than 800,000 young people have received DACA status.

In this report, we illustrate the profound impact DACA has had on beneficiaries, their families, and their communities over the last seven years. We draw on data from the National UnDACAmented Research Project (NURP)—a longitudinal, national study launched in 2013 to understand how young people were experiencing their DACA status. Our respondents constitute a diverse sample of 408 DACA beneficiaries from six states, representing a vast array of racial, ethnic, economic, and educational backgrounds.

Prior to DACA, our respondents faced numerous barriers that impeded life course trajectories and well-being, as well as prevented them from establishing their independence. Over the course of our study, we watched our DACAmented respondents harness numerous newfound opportunities. For those who had previously left high school, DACA has provided motivation to enroll in GED and adult education programs. For those seeking higher education, DACA has improved access to vocational programs, community colleges, universities, and graduate schools. Work authorization has enabled our respondents to obtain new jobs, access higher wages, and pursue meaningful and stable careers. Together, these educational and economic opportunities have bolstered our respondents' abilities to support their families and strengthen their communities. With broader inclusion in society, our respondents have experienced improved mental health and well-being.

Despite this incredible progress, our respondents continue to face limitations due to the temporary and partial nature of DACA and the lack of protection for family members and loved ones. Ultimately, these barriers limit upward mobility and long-term well-being for our respondents and their families. Additionally, our respondents are subject to a mixed landscape of state- and local-level policies; while those living in inclusive environments may experience improved access to social institutions, those living in restrictive contexts continue to be barred from opportunities despite their DACA status.

More importantly, our respondents are facing new anxieties and fears due to the uncertain future of the DACA program. In 2017, the Trump administration moved to terminate DACA. As this decision is being challenged in the courts, the United States Citizenship and Immigration Services (USCIS) has stopped accepting new applications; current DACA beneficiaries have been permitted to renew their status. The U.S. Supreme Court is expected to hear oral arguments on November 12, 2019. For our respondents, the potential DACA termination could mean a reversal of the incredible progress made over the last seven years. Once again excluded from economic, educational, and social institutions, our respondents would be pushed out of jobs and educational programs, and they would face new financial hardships and significant psychological distress.

Introduction

Until recently, growing numbers of undocumented children and youth faced legal barriers to economic, educational, and social development.¹ Despite their inclusion in K-12 schools, broader access to the country’s educational, economic, and social institutions was limited by their undocumented status. Annually, an estimated 98,000 undocumented students graduate from high schools while another 27,000 do not reach graduation.² Due to congressional inactivity on immigration, 125,000 students are forced to put their lives on hold every year.

On June 15, 2012, this untenable position changed for many young people with the introduction of the Deferred Action for Childhood Arrivals (DACA) program, an administrative policy that offered eligible young people temporary protection from deportation along with work authorization and other forms of legal access.³ In the program’s seven years, more than 800,000 young people have become “DACAmended,” accessing previously unavailable life opportunities. DACA beneficiaries have acquired driver’s licenses, obtained employment that better matches their career goals and educational attainment, and improved their financial circumstances.⁴ Those who obtained DACA in their teenage years were able to gain access to these benefits on time with their peers, smoothing their transitions to late adolescence and young adulthood.⁵ DACA beneficiaries are now in a better position to support their families. Many have improved their living arrangements, purchased new cars, and enrolled their children in day care programs. They have also experienced enhanced feelings of security, belonging, and overall well-being.⁶

Shortly after DACA’s implementation, we established the National UnDACAmended Research Project (NURP)—a longitudinal, national study seeking to understand how DACA beneficiaries experience their new status. In 2013, we surveyed 2,684 DACA-eligible young adults. Then, in 2015, collaborating with community partners in six different states, we recruited a diverse group of 408 DACA beneficiaries from a vast array of racial, ethnic, economic, and educational backgrounds. We have since carried out three waves of data collection with these respondents.⁷

Upon receiving DACA, our respondents expressed renewed hope in their abilities to realize their future educational and career goals. Jin from California told us, “It gave me hope that my future is not up in the air anymore.” Ahmed from New York said that “I finally feel like I am a part of the U.S., like I’m no longer living in the shadows.” And Jenny from Illinois explained, “In some ways, I feel like it saved my life.”

Seven years into DACA and six and a half years into our study, much has changed for our respondents. A lack of legal status previously impeded many respondents’ abilities to pursue higher education, find stable employment, and establish their independence. However, DACA has opened a wide range of educational, economic, and social opportunities. Many of our respondents have completed postsecondary degrees and started careers. Access to employment and driver’s licenses, for example, has improved respondents’ trajectories, and these gains have been extended to their family members and loved ones, dramatically enhancing their overall quality of life. Our respondents have taken on more responsibilities and more people depend on them now.

The tremendous improvement in our respondents’ trajectories demonstrates the powerful impact of DACA, arguably the most successful policy of immigrant integration in the last three decades. However, as an administrative policy, DACA has limited inclusionary power; it does not undo financial aid exclusions, and it does not offer a pathway to citizenship or other forms of legal immigration status.

On September 5, 2017, the Trump administration moved to terminate DACA. At the time of this writing, the future of the program is being challenged in the court system, and the U.S. Supreme Court is scheduled to hear oral arguments on November 12, 2019. While current beneficiaries may continue to apply for renewal, the United States Citizenship and Immigration Services (USCIS) is no longer accepting new applications. Hundreds of thousands of young people turning 15 each year will not have the opportunity to benefit from DACA. The uncertain future of the program has also put a damper on current DACA holders’ plans and has generated new anxiety and fear. As of April 30, 2019, 669,080 young people were holding DACA status.⁸

In this report, we summarize the experiences of DACA beneficiaries who have gone through several renewals but continue to worry about their futures in the United States. The narratives of our respondents shed important light on the positive impact of DACA, but also highlight its limitations in a time of uncertainty and heavy immigration enforcement. The results of this study have clear implications for U.S. immigration policy and practice.



DACA as a Vehicle for Social Mobility

Over the course of our study, our respondents made significant strides in their personal and professional lives. When we first met, our respondents were harnessing newfound opportunities to work, drive, establish credit, access health insurance, and enroll in postsecondary programs. In our 2013 survey, large shares of our 2,684 respondents had obtained a new job within their first year of having DACA status and many had increased their earnings. Earlier this year, another national survey of 1,105 DACA beneficiaries found that 91 percent of respondents 25 or older were employed.⁹

By our final interviews, these initial opportunities had translated to upward mobility in respondents' work, school, and personal lives, as DACA incentivized onramps to educational pathways and boosted employment options. GED enrollment and college matriculations materialized into hard-earned degrees and first jobs led to budding professional careers. Growing financial stability and a sense of security improved respondents' health and well-being and produced profound domino effects for families and communities. In the course of seven years, improved economic stability has enabled our respondents to take on new financial obligations—living independently, taking care of their families, enrolling their children in daycare programs, and managing car payments and mortgages.

New Educational Pathways and Opportunities

While DACA does not override exclusion from federal financial aid, it has, nevertheless, enabled beneficiaries to access new educational opportunities. Due to their ability to secure stable employment and earn higher wages, DACA beneficiaries now have greater financial resources to afford higher education. Additionally, many states have extended state-based benefits, like in-state tuition, to DACA beneficiaries, making college more financially feasible.¹⁰ Work authorization has also increased DACA beneficiaries' desires to pursue higher education. By establishing a link between educational investments and tangible employment opportunities, DACA has incentivized educational pursuits. While our respondents have long

recognized the intrinsic value of education, many were discouraged that they could not utilize their degrees in relevant careers upon graduation. Work authorization ensures that educational investments will pay off.

Over the course of our study, our respondents turned educational aspirations into tangible career outcomes. DACA facilitated the completion of vocational programs, associate's degrees, bachelor's degrees, and even graduate and professional degrees from master's programs to law and medical school. Respondents then acquired jobs in related fields. Many used these initial employment opportunities as stepping-stones to launch new careers.

Our interviews offer an important window into *how* these processes unfolded for our respondents. Take Laura, a DACA beneficiary from Arizona. When Laura was seventeen, her father lost his job, and her parents returned to Mexico. Everyday life became a struggle and Laura barely finished high school. Facing the emotional and financial hardships of being separated from her family, Laura put off going to college. Two years later, after learning about DACA, she pulled together the money she had saved from babysitting and cleaning houses for the application fee. It was not long before she received approval and, with it, a new lease on life. Empowered by her newfound ability to pursue lawful employment, Laura enrolled in an 8-month medical assistant training program. While not her preferred pathway to a career in nursing, the medical assistant program was a more affordable and immediate option to jumpstart a career in medicine.

“ It’s a step in the medical field. I can actually work with patients. I can get experience and [an] idea what it’s going to be like. I love the fact that I can actually work with people and help them in some way. ”

Upon graduation from the program, Laura secured a stable job as a medical assistant. Not only was this position in her field of interest, but it provided her a steady income from which to save money. She plans to soon enroll in a degree program in nursing, likely at the associate's level, and then to work her way up to a bachelor's degree.

Laura's story highlights how our respondents have utilized educational opportunities to jump-start new careers. Without access to financial aid, many DACA beneficiaries like Laura are still economically restricted from pursuing their preferred postsecondary pathway. Because licensed programs are shorter and more affordable options, they provide DACA beneficiaries with entry points to a wide range of professions. Participating in these non-residential programs has also allowed them to live at home and to save money for tuition that would otherwise go towards independent living expenses. Many DACA beneficiaries have utilized these programs as stepping-stones to four-year degrees, making incremental career moves. Others have pursued them as gateways to specialized careers in growing industries. Work authorization has provided DACA beneficiaries the assurance that they will be competitive in these industries after completion of relevant training programs.

For respondents completing certificate or licensing programs, 68 percent immediately saw hourly increases from \$5-8 an hour to more than \$14 an hour and 76 percent at least doubled their yearly salaries. Over time, our respondents have gained experience in these fields, allowing them to move up the occupational ladder.

For many of our respondents, DACA facilitated even greater mobility through enrollment in four-year colleges and universities. In our 2013 survey we found that four-year college students were more likely to obtain new jobs, increase their earnings, and obtain paid internships in their chosen fields; across all respondents, the likelihood of obtaining new jobs and increasing earnings was greatest among college graduates.

Take Gabriel from New York City, who was able to enroll in a local college prior to DACA thanks to a private scholarship. When he received DACA in his junior year, Gabriel was able to make the most of his newfound access. With aspirations to become a doctor, he was able to pair his biology major with paid positions in the science and health fields to build his resume for medical school. What's more, DACA allowed Gabriel to envision medical school as a reality—access to work authorization could make it all possible, enabling him to secure a residency position and eventually a medical career.

In 2015, Gabriel explained to us the impact of DACA on his future plans.

“ It’s opened up more doors and opportunities. Like now when I apply to medical school, because I have DACA I have a Social Security [number]. Medical schools are willing to consider me because then I can do residency and all that stuff. ”

During the course of our study, Gabriel graduated from college, took the MCAT, and enrolled in medical school. At the time of our final interview in 2019, he was in his third year of medical school, studying to become a doctor of internal medicine and hoping to one day provide healthcare to under-resourced communities.

As these stories demonstrate, DACA enabled our respondents to pursue their academic goals and complete postsecondary degrees. For many like Laura, work authorization provided the means and incentive to seek vocational training. This strategy launched careers in growing fields. For others like Gabriel, who had managed to access postsecondary education prior to DACA, early opportunities and investments paired with the ability to seek lawful employment provided a significant leg up in accessing career opportunities. While the inability to receive federal financial aid continues to disadvantage respondents, DACA has nevertheless opened new opportunities to pursue higher education and jumpstart careers.

Opening Work and Career Pathways

Since receiving DACA, beneficiaries have become increasingly integrated into our nation’s workforce and economy. Work authorization has served as an entry point towards realizing career aspirations, as well as a basis of financial support for beneficiaries and their families. Work authorization has enabled DACA beneficiaries to acquire jobs in the formal labor market, access newfound workplace agency, and achieve upward mobility.

Prior to DACA, our respondents were pressed to navigate the informal job market and often forced to accept substandard work conditions. With DACA, they have achieved notable social mobility, and as a result, they have experienced increased job satisfaction and decreased workplace vulnerabilities. Key to their success, many of our respondents had multiple men-

tors in high school, were active in extracurricular clubs, held leadership roles in their schools, were involved in their communities, and were connected to organizations. As a result, they possessed the social networks and information necessary to access job-related opportunities.

To illustrate the work and career implications of DACA, we showcase two notable pathways, highlighting the diverse ways DACA has positively impacted employment experiences for both younger and older beneficiaries.

Many of our respondents received DACA in their teenage years, so they were able to access work authorization and driver's licenses at the same time as their American-born and citizen peers. This early access allowed them to make important life course and educational transitions unencumbered by their undocumented status. Take Amir, a DACA beneficiary from New York. Both of his parents held advanced degrees from their native Pakistan. But their undocumented status limited their ability to pursue employment in New York. Amir received DACA while in high school, giving him hope that he could harness employment opportunities that were out of reach for his parents. He excelled in his information technology courses in high school, and as a result, his teacher helped him obtain an after-school job as a computer technician, serving various schools in a local school district. In addition to his work permit, DACA enabled him to obtain a driver's license, which he needed to travel to the various schools.

“ Being able to drive is very, very important. It helps speed up the day. Not just that, for my job I need to drive almost all day. Without having a driver's license, I would not be able to have the current job I do now. ”

Over the next few years, Amir received several wage increases, and he completed additional certificate programs—making as much as \$15 an hour. Amir's stable wages allowed him to save enough money to enroll in a computer science program at a local university. When we talked to Amir in 2019, he was in the final semester of his bachelor's program and had secured a full-time management position at an IT support desk for an international company. In this position he leads a global team of IT workers to improve security and company performance. Not only is Amir utilizing his technology skills, but he is also now a leader in his department,

making \$30 an hour. Obtaining DACA at a young age enabled him to gain early experience in a field that matched his interests and then to pursue an education that strengthened his skillset, making him an even more competitive job candidate.

For DACA beneficiaries who were older at the time of their initial DACA approval, early experiences navigating education and employment were much more difficult. With uncertainties and limited prospects for employment, these years were a struggle for many of our older respondents. However, DACA provided access to never-before held opportunities for employment and postsecondary education.

Oscar, a DACA beneficiary from California, was twenty-four years old when he received his DACA status. Prior to DACA, Oscar financed his education by working in California's agriculture industry, alongside his undocumented parents. Working in the fields exposed him to significant occupational health hazards and additional vulnerabilities because his employer knew he was undocumented. It took him six years to finish his undergraduate education. Ultimately, his hard work paid off in the form of academic success and acceptance into law school. Nevertheless, jobs in his field remained inaccessible, and he worried about the feasibility of pursuing a legal career.

Oscar received DACA during his first year of law school. As a result, he was able to pursue a paid legal internship that summer, keeping pace with his peers. During the course of our study, Oscar finished his law degree, and he is now working at an immigration law firm that serves under-resourced populations in his hometown in California's Central Valley. Oscar credits DACA for his major life accomplishments—a juris doctorate, home ownership, and his law career. He told us that DACA had allowed him substantial professional growth. Oscar exemplifies the possibilities that arise when DACA beneficiaries are given opportunities to realize their professional ambitions.

In the workforce, our respondents experienced newfound access to more stable jobs with higher pay, better benefits, and less stressful working conditions. Over time, access to better paying jobs and new opportunities served as important stepping-stones to career trajectories.

Supporting Families and Strengthening Communities

As discussed above, DACA has provided beneficiaries with improved access to the formal labor market, postsecondary education, and driver's licenses. We find that these opportunities have not only improved beneficiaries' quality of life but have also been extended to support larger units, such as their families. As a result, DACA has improved the quality of life for hundreds of thousands of mixed-status families living with a DACA beneficiary.

Since obtaining DACA, most of our respondents have taken on additional familial responsibilities. Higher wages have enabled many respondents to offer more substantial financial contributions to their households. With the legal ability to drive, many respondents now drive their undocumented family members to and from work and appointments. Access to state-issued identification has also permitted our respondents to act on behalf of their families in purchasing cars and homes, signing leases, and acquiring financial services. And, since DACA has facilitated access to informational networks, many respondents have helped their families access necessary services, from healthcare to organizational support. Taken together, these examples demonstrate how DACA has enabled beneficiaries to dramatically improve the economic and psychological well-being of their families.

Take Maria, a DACA beneficiary from New York City. Maria grew up in a mixed-status family—she and her mom were undocumented, and her younger siblings were U.S. citizens. As a teenager, Maria took on a significant share of household duties. She was tasked with the care of her younger siblings, getting them to and from school, and liaising with the school and other community institutions. Maria's family experienced financial difficulty and housing insecurity, but without state-issued identification, it was often difficult to access support from local social service organizations.

Upon receiving DACA, Maria felt more secure in accessing services for her family and requesting resources they needed.

“ Basically, I did not really have any other ID other than a school ID and that was very difficult for my family because we would visit a lot of social services offices and they would not let me in. Nowadays when I have to go places with [my mother], it gives me a sense of, ‘You cannot tell me I do not belong here anymore.’ ”

Thanks to DACA, Maria was also able to find a steady job, and put away money each month to help her mother secure a lease on a new apartment. With the help of supportive high school teachers, Maria secured scholarships to pay for college in full. By her final interview, Maria had graduated with a bachelor’s degree in Political Science and secured a full-time job at an immigration law firm. These opportunities helped Maria to save her family from homelessness, as her increased wages enabled them to pay rent on their apartment and to meet all their expenses. Eventually, Maria was able to move out of her mother’s house and begin a new life with her partner, continuing to support her family financially while also enjoying more independence.

Just as DACA’s impact has extended to beneficiaries’ families, it has also added a net benefit to their local communities. Many of our respondents utilized their newfound work authorization to bring essential services and resources to their communities. As we described earlier, Oscar was utilizing his law degree to provide necessary legal services in his hometown in California, and Gabriel looked forward to working as a doctor in his underserved neighborhood in New York. In addition, temporary protection from deportation enabled our respondents to watch out for undocumented family members and neighbors amid heavy immigration enforcement.

In addition to supporting their immediate local communities, our respondents have also found new agency to advocate for the broader immigrant community. Many beneficiaries have become more politically and civically engaged. With temporary protection from deportation, our respondents have felt empowered to fight for the rights of their unprotected family and community members. Through their advocacy work, these respondents have often learned new skills—such as assisting with DACA applications—and have made new connections—like immigration attorneys—that are valuable for their families and communities. Finally, by connecting to advocacy groups, respondents have also met other DACA beneficiaries who have

provided necessary emotional support. For many, community engagement has provided an added sense of purpose and drive to engage with broader community struggles, while also cultivating support systems.

For Juan, a DACA beneficiary from California, new opportunities have allowed him to activate prior experience to benefit his community. Growing up, Juan had a difficult childhood. His parents struggled with isolation and bouts of depression, owing to their undocumented status. Juan kept himself busy with extracurricular activities at school in order to keep his mind off his troubles at home. Over time, Juan grew to thrive in these settings and valued opportunities for civic and political participation. He developed important leadership skills and learned about various social justice issues affecting himself and his immigrant community. In addition, these pursuits provided Juan a support system he did not have access to in his home life. Still, at times, he felt as though his undocumented status held him back from fully participating. When he received DACA, Juan started putting his experience and connections to work. His earlier volunteer work connected him with a California state legislator who hired him to work for his office. In this new role, Juan is now able to convey the needs of his community directly to state legislators. Members of his community also feel that their state representative is much more accessible.

Since obtaining DACA, our respondents have harnessed opportunities to make significant improvements in their financial stability and well-being. In addition, they have utilized these opportunities to better support their families, neighborhoods, and broader communities. With new employment opportunities and increased wages, they are better able to financially support their families and address family members' basic needs, beyond those of their own. Finally, for many of our respondents, their DACA status has afforded new protection and agency that facilitates political learning and democratic participation.

Improved Health and Well-Being

Undocumented immigrant youth encounter a host of obstacles that challenge their well-being. Uncertain futures, exclusion from social institutions, stigmatized identities, and family

stressors can cause significant psychological distress. Before DACA, our respondents' undocumented status negatively impacted their mental health and perpetuated feelings of isolation. Everyday life was marked by fear, anxiety, and disillusion. Many of these emotional challenges created accompanying physical side effects like exhaustion, headaches, and ulcers.

DACA's deportation relief had a positive effect on respondents' sense of safety and security. In our 2013 survey, two-thirds of our respondents told us they were less afraid of law enforcement and immigration officers. More than 70 percent said they felt less stress in their everyday lives. DACA has affirmed beneficiaries' long-standing residency in the United States and has fostered a greater sense of recognition and belonging. In many cases, protection from deportation has eased beneficiaries' anxieties and enabled them to envision futures for themselves in the United States. In the example that follows, we illustrate the negative mental health impacts of growing up undocumented and demonstrate how DACA provides much-needed psychological relief and support.

In high school student, Valeria maintained a 4.0 GPA, played volleyball, and participated in various school-based clubs and extracurricular activities. Nevertheless, her high school experience was not easy. Valeria attended a politically conservative high school in California, where anti-immigrant rhetoric was common, and educators insisted that without legal status she could not have a future in this country. During her junior year, when peers started thinking about the college application process, Valeria realized that her undocumented status would make college inaccessible. She experienced severe depression and anxiety, and her grades dropped dramatically for the remainder of her high school years. She recalled one particular conversation with a counselor that left her feeling hopeless and alienated.

“ When he told me ‘You don’t have papers, you don’t deserve to be here.’ It was very hard. I went from being [a] straight-A student to getting Bs and Cs ‘cause I’m like ‘I don’t care anymore. What am I gonna do with my life? He’s right. I don’t belong here. Why am I even trying?’ It was very hard. It was a very dark period in my life. I would cry a lot. I would cry every night. I couldn’t sleep. I had a panic attack one time ‘cause I was just so frustrated. ”

After Valeria graduated from high school, she had few employment options. She found work in various low-wage job sectors—restaurants, call centers, light manufacturing—where she was paid cash. For years, Valeria experienced depression and anxiety that stemmed from shame about her status and a lack of belonging. When she obtained DACA, she finally began to visualize a positive future. She was accepted to a four-year university near her hometown and began to experience much better health. She credits DACA for affirming her personhood and providing the mental stability necessary to complete her education.

For Valeria and others, DACA has also improved their physical well-being. With new forms of access, DACA has helped many beneficiaries access health insurance. While some of our respondents have received insurance through their employers or higher education institutions, others in immigrant-supportive states have qualified for state-funded Medicaid. Possessing health insurance has enabled these respondents to seek treatment for both acute and chronic illnesses and injuries, see a healthcare provider regularly, and receive proper care and medication. In the story that follows, we see the impacts which access to health insurance had for Jesse, who has a debilitating disability.

For Jesse, a DACA beneficiary with a debilitating disability, access to health insurance had a lasting impact. As an infant, Jesse was diagnosed with a lifelong disability.¹¹ Living in the United States provided necessary access to medical professionals who understood Jesse's diagnosis. This early care allowed Jesse to maintain a positive outlook and eventually enroll in a four-year university to study science. However, as an adult, long-term options for health care were starting to dwindle.

DACA brought Jesse two major life changes. First, as of January 1, 2014, DACA afforded Jesse the opportunity to enroll in Medi-Cal, California's Medicaid program that provides free or low-cost medical services for children and adults with limited income and resources.¹² Second, work authorization enabled Jesse to obtain a new job with increased earnings. This improved financial stability enabled Jesse to become financially independent, as well as maintain full-time student status. During the course of our study, Jesse completed an undergraduate degree, married, and found a full-time job at a liberal arts college to support disadvantaged students. By enabling access to life-changing medical services, Jesse was able to live a full life.

“ I have a physical disability that I have [had] since birth. The insurance that I was able to get through DACA... I think the biggest loss for me personally would be the loss of healthcare. I wear braces, for example, on my legs, and I used to replace them every few years... [Without insurance] I could seriously do a lot damage [to] my legs and ultimately not be able to walk. ”

Jesse's increased independence means relying less on their parents, relieving them of their caretaking duties. Knowing that Jesse has access to care and support, family worries have markedly decreased.

For many of our respondents, DACA has improved feelings of confidence, security, and stability. Others have experienced improved access to health care. As a result, they feel healthier and are subsequently better able to navigate uncertain futures. Research demonstrates that the improved health and well-being of an individual results in better outcomes for their respective families, communities, and society as a whole. By extension, improved health and well-being for DACA beneficiaries advances general social progress.

Opening Access to Travel

As the above examples demonstrate, access to state-issued identification has enabled DACA beneficiaries to obtain jobs, access resources, and drive legally. Our respondents pointed to another important benefit of state-issued identification: the ability to travel without worry. While many undocumented immigrants have been able to board domestic flights with a passport from their birth country, traveling still carries significant risks. For undocumented immigrants who lack a passport, air travel is nearly impossible. Under DACA, many of our respondents began to utilize their new IDs to travel for work, explore new places, or visit family members and friends in other parts of the United States. For Sofia, a DACA beneficiary who grew up in Arizona, the ability to travel allowed her to reunite with her family and receive important support during a challenging time in her life.

After her junior year in high school, Sofia moved from Arizona to New York to live with a close family friend, who had offered to pay for Sofia's college tuition and living expenses. Sofia was hesitant to leave her family, but she knew it was the only way to afford a college education.

While Sofia loved her new high school and her college in New York, she missed her family. Without a state-issued ID or a passport, Sofia was unable to travel back to Arizona to visit her family. For Sofia, one of the biggest benefits of receiving DACA was the opportunity to reunite with her parents.

“ As soon as I got DACA, the first thing I did—it had been four years since I had seen my family—and the first thing I did was buy myself a ticket and go back to Arizona. Now I travel once or twice a year to go see them. ”

Over the course of our study, Sofia graduated with a bachelor’s degree in architecture and obtained a job at an architecture firm. With a steady income and benefits, she was able to move out of her family friend’s home and become fully independent. Regular visits to Arizona to see her family helped her to recharge, providing her the confidence and encouragement to keep going.

In addition to opening domestic travel, DACA allows beneficiaries to travel internationally through Advance Parole.¹³ Several of our respondents have benefited from this opportunity to study abroad. Others have reunited with immediate and extended family members, from whom they had been separated for years.

Isabella was born in the Dominican Republic, where she lived until she was 14. When she began struggling in high school, her parents decided to send her to live with extended family in the United States. Being separated from her parents and siblings was emotionally taxing, and Isabella struggled with feelings of hopelessness and isolation. However, DACA and more specifically, Advanced Parole, provided her with needed mental stability. Isabella applied for Advance Parole while in college to study abroad and visit her family, whom she had been separated from for nearly fourteen years.

Opening up opportunities to travel is a less visible, yet powerfully impactful function of DACA. For respondents, this meant increased comfort and freedom to board planes, trains, and buses to visit relatives and friends. Having the ability to travel also improved work opportunities. It would be no exaggeration to say that it enlarged their worlds.

The Experience of DACA Beneficiaries Varies According to State and Local Contexts

The Impact of State and Local Policies

Overall, DACA enabled our respondents to take giant steps towards the American mainstream. However, our interviews with beneficiaries in diverse state contexts underscores an important point: the ability to take full advantage of DACA's benefits is structured by where one lives. Over the last decade, as congressional action on immigration has stalled, several states, counties, and municipalities have taken steps to respond to immigration issues. In addition, where immigrants live—whether in close proximity to social and educational services, in cities with extensive public transportation options, or in locales where they feel welcomed—plays an important role in their process of integration. This uneven geography of local policies and varying responses to immigrant integration has come to shape diverse experiences, demonstrating that today, perhaps more so than ever before, one's place of residence within the United States dramatically shapes a multitude of experiences based on local opportunities and impediments.

While undocumented immigrant young people receive a K-12 education by federal law, they experience varying contexts of incorporation depending on where they live. Some states have opened up access to broader participation—offering undocumented immigrants the ability to apply for driver's licenses and in-state tuition at public universities. Others have adopted a more restrictive stance—for example, by attempting to criminalize unauthorized presence and exclude undocumented immigrants from public universities.

Many of our respondents experienced limitations to their social mobility when interfacing state and local policies which purposefully exclude DACA beneficiaries. Although DACA is a federal program, beneficiaries are subject to varying policies at the state and local levels which pattern DACA's impact. While some states and localities have passed legislation permitting the inclusion of DACA beneficiaries in the social fabric, others have attempted to further exclude them. These state and local policies can impact beneficiaries' abilities to pursue higher education, enter certain career fields, and feel safe in their own homes and neighborhoods.

Access to Higher Education

For many of its beneficiaries, DACA has significantly lowered structural barriers that have impeded undocumented students' access to a college education. DACA beneficiaries in certain states have also been able to take advantage of existing state policies designed to assist undocumented students. Presently, undocumented students in at least nineteen states and in the District of Columbia qualify to pay in-state tuition at public colleges and universities. At least seven states also allow undocumented students to receive state financial aid. And four states allow their public colleges and universities to offer private institutional aid or scholarships to students who qualify for in-state tuition, regardless of their immigration status.

However, DACA beneficiaries in some states are at a decided disadvantage because of exclusionary policies. For example, three states—Arizona, Georgia and Indiana—specifically exclude undocumented students from in-state tuition rates and two states—Alabama and South Carolina—prohibit undocumented students from enrolling at any public postsecondary institution. Additionally, Georgia excludes undocumented immigrants from its top three public university systems.

Since DACA's implementation, some states have passed legislation to provide greater inclusion specifically for DACA beneficiaries, despite otherwise restrictive policies for undocumented immigrants in general. For example, while only 12 states along with the District of Columbia and Puerto Rico extend driving privileges to undocumented immigrants, all 50 states plus the District of Columbia and Puerto Rico have passed legislation to permit driver's license eligibility to DACA beneficiaries. At least three states that previously did not have tuition equity policies on the books—Virginia, Massachusetts, and Ohio—along with certain institutions and systems in Arizona, Missouri and New Hampshire, have passed legislation permitting DACA beneficiaries to pay in-state tuition at state colleges and universities. And, while Alabama and South Carolina ban undocumented students from public higher education in their states, South Carolina has passed legislation permitting DACA beneficiaries to attend its colleges and universities while select community colleges and universities in Alabama have allowed DACA beneficiaries to enroll. In addition, several local and national scholarship funds that did not previously provide scholarships to undocumented students have extended

eligibility to DACA beneficiaries. As a result of these various actions, DACA beneficiaries in certain states have experienced improved access not otherwise extended to undocumented immigrants not covered by DACA, increasing the gap between DACA beneficiaries and their unDACAmented counterparts.

For those in our study, respondents in California, New York, and Illinois, in particular, have benefited from their state's efforts to improve college access for DACA beneficiaries. Consequently, beneficiaries in those three states had better education outcomes, as they could access in-state tuition rates. Additionally, beneficiaries in California could access state-based financial aid—including scholarships, loans, and work study positions.¹⁴ Several of the respondents profiled thus far have benefited from these inclusive educational policies. Tuition policies in New York allowed Amir and Isabella to afford college. In California, Valeria and Jesse benefited from access to state financial aid in addition to in-state tuition, making college even more affordable.

In South Carolina, recent changes have also benefited our respondents there. For Luis, a DACA beneficiary in South Carolina, changes in state laws dramatically improved his educational prospects. In 2007, the state legislature passed HB3620, excluding undocumented immigrants from receiving any form of student aid for higher education in South Carolina, including tuition assistance and scholarships. One year later, HB4400 was signed into law, making South Carolina the first state where undocumented students were altogether prohibited from enrolling in public colleges and universities in the state. However, after DACA was initiated, the state's Commission on Higher Education announced that the restrictions of HB4400 would not apply to DACA beneficiaries, allowing Luis and others access to higher education.¹⁵

This change in state policy had a profound effect on Luis, who moved to South Carolina when he was nine years old. During his senior year of high school, when Luis realized he would not be able to attend college in his home state of South Carolina because of the ban, he was crushed. Instead of pursuing college, Luis worked in restaurants after graduating from high school. He felt as though he was wasting his time and talents. Two years later, his life completely changed when he was approved for DACA. Due to the South Carolina Commission on

Higher Education’s decision exempting DACA beneficiaries from bans on college enrollment, he could finally attend a local community college. As Luis explained, “[DACA] instilled a new hope in me. It’s what’s driving me forward to do the best I can again and to focus and be responsible.”

By contrast, the other two states in our study—Arizona and Georgia—have taken measures to restrict college access for DACA beneficiaries. In these two states, our respondents experienced additional challenges in pursuing a postsecondary education. They spoke at length about how being barred from state-based financial assistance and being subject to out-of-state tuition rates made college access and completion nearly impossible. Additionally, DACA beneficiaries in Georgia cannot enroll in the state’s top public institutions—University of Georgia, Georgia Institute of Technology, and Georgia College and State University. Subject to tuition costs far beyond those of their high school peers, DACA beneficiaries in these states must often put their college aspirations on hold, despite their academic credentials.

For Melanie, a DACA beneficiary living in Arizona, state policies limited what she hoped was possible through DACA. Melanie had always dreamed of going to college, but as an undocumented student in high school, she realized that there would be roadblocks in her way. After graduation, Melanie enrolled in community college. While she had the credentials and the will to start a bachelor’s degree, restrictions from in-state tuition in Arizona meant that community college was her only option. Only able to take a few classes at a time, she worried that it would take her years to finish an associates degree, and that she would not have any remaining funds for college by the time she could transfer to a four-year university.

Melanie’s future brightened when she received DACA, which, at the time, qualified her for in-state tuition rates in Arizona. She transferred to a top public university, pursuing a bachelor’s degree in social work, and she planned to continue for a master’s degree after. On April 9, 2018, the Supreme Court of Arizona ruled that DACA beneficiaries are ineligible for in-state tuition at Arizona colleges and universities. While grateful to have a college education, Melanie accepted that she would not be able to continue for her master’s degree, as she had hoped.

“ I was hoping that once I got out of school, I would be able to get my master’s degree. And then all the sudden, DACA students don’t qualify for in-state tuition. So, that was definitely another bummer. Especially because I was pursuing a double major. There’s different policies that come out all the time that are trying to take away different rights that were granted as part of being a DACA recipient. ”

For Melanie, restrictive higher education policies derailed her educational trajectory at a critical time, forcing her to drop a second undergraduate major and forgo graduate school. Unfortunately, these barriers hampered beneficiaries’ progress and ultimately mitigated DACA’s potential to transform their lives.

Access to Occupational Licenses

In addition to shaping DACA beneficiaries’ access to college, states can also determine which professions they can pursue. Nearly 30 percent of jobs—from cosmetologist to medical doctor—require professional licenses to practice. These licensing requirements vary from state to state. Of the states in our study, California, New York, and Illinois have passed legislation to include DACA beneficiaries in licensure policies. In these states, DACA beneficiaries can enter licensed career fields after attaining the necessary academic credentials. In earlier examples, we showed how respondents were able to pursue licensed professions. Oscar, for example, was able to practice law because California allows DACA beneficiaries admission into the state bar association. Gabriel knew that he could pursue medical school, as New York allows DACA beneficiaries to receive medical licenses. Finally, Sofia has been able to study for her Architect Registration Examination, since New York enables DACA beneficiaries to receive architecture licenses.

By contrast, Arizona, Georgia, and South Carolina have not extended access to professional licensure to DACA beneficiaries. Even when DACA beneficiaries complete the relevant training programs in these states, they are denied the right to practice in licensed career fields. To this point, we showcase the story of Raul, a DACA beneficiary in Arizona who maximized the educational opportunities available to him but still could not circumvent state policies to practice the career he envisioned for himself.

Not only did Raul maintain good grades in high school, but he was also involved in sports and student government. With the support and mentorship of a teacher, Raul enrolled in college prep courses, including an arts summer program at a local university. There, Raul took an immediate interest in architecture. In his senior year, he was accepted into the architecture program at this university, but he could not afford tuition. Raul briefly attended a local community college and started taking prerequisites for architecture. But, he soon had to drop out due to financial struggles. What's more, he came to learn that architecture was a licensed career field, and that he would not be able to receive an architecture license as a DACA beneficiary in Arizona. At the time of our last interview, Raul was working at a call center. While his job was manageable, it was far from his original aspirations. Raul was considering other options, but he feels that local professional license requirements will continue to limit his opportunities.

Raul and Melanie's stories highlight the ways in which restrictive state policies can prohibit DACA beneficiaries from actualizing their academic and career potential. Both of these young people feel they could have achieved more had they not resided in Arizona, an immigrant-restrictive state.

Navigating Immigration Enforcement

State, county, and municipal policies can also impact DACA beneficiaries' feelings of safety and security, even with temporary protection from deportation. The presence of Immigration and Customs Enforcement (ICE), the frequency of immigration raids, and the prevalence of deportations are neither uniform across states nor uniform across counties or communities within a state. While some states and localities have chosen to cooperate with federal immigration enforcement efforts, others have chosen to resist.

As discussed earlier, DACA beneficiaries are acutely aware of the delicate nature of their status. Many of our respondents expressed fear that DACA could be taken away at any time, leaving them vulnerable to deportation. Worries about safety and security were often heightened by the presence of ICE officers in their communities. To illustrate the extent to which feelings

of danger and vulnerability frame beneficiaries' everyday lives, we offer the reflections of Eddie, a DACA beneficiary from Arizona who, while protected by DACA, continues to worry about deportation in a state that has experienced high-profile enforcement efforts.

“ I try not to think about [being deported]. When it does happen—like saying I’m driving. I’m driving fine. Driving the speed limit, hands on the wheel, ten and two. Then, I see a cop behind me. I think ‘Was I speeding? Was I going five above the speed limit? Did I turn? When I turned, did I use the signal right? Is he looking at me? Is he looking at my skin?’ I think ‘Am I gonna get deported, if I get stopped? Am I gonna go to jail, and then get deported? If I do get deported, am I gonna get deported where I live, or used to live? Or are they gonna send me far away?’ They gonna be like, ‘Oh, he lives here? Let’s send him over there.’ If he does stop me, ‘Is he gonna take my car away? Where is it gonna go? My mom, how are they gonna get help?’—All that goes through my head. That affects me mentally, physically, emotionally. ”

The experiences of Melanie, Raul, and Eddie point to the ways in which restrictive state and local policies have limited DACA’s transformative power. While inclusive state and local policies have served to enhance DACA’s impact, restrictive state and local policies have exacerbated DACA beneficiaries’ vulnerability.



Remaining Barriers to Social and Economic Progress

While our respondents have made significant strides in their work, school, and personal lives, several remaining barriers have limited their progress. Ultimately, DACA does not provide a pathway to legalization and it does not override exclusions from federal financial aid. And while beneficiaries have enjoyed deportation relief and increased access to work authorization, driver's licenses, and educational opportunities, they remain tied to family members who remain vulnerable and are not offered the same protections. In recent years, the national debate and a turn towards exclusionary and punitive policies have had a profound chilling effect on families and communities, exacerbating vulnerability and anxiety. Ultimately, these issues have limited upward mobility and long-term well-being for our respondents and their families.

The Limitations of DACA Status

Despite the benefits afforded by DACA, beneficiaries continue to lack access to many of the economic, educational, civic, and psychological benefits afforded by legal permanent residency and citizenship. Without a permanent legal pathway, DACA beneficiaries continue to experience a sense of limbo and uncertainty.

DACA beneficiaries are permitted the opportunity to renew their status every two years. This provides an ongoing opportunity to enjoy the benefits of this status. However, the short renewal period limits beneficiaries' ability to make long-term plans. Many of the young people we spoke to told us that they felt as though they were constantly being monitored, and that this situation made them feel uneasy and anxious. The renewal process also introduces the risk of experiencing gaps in status while waiting for renewal approvals. Many of our respondents experienced delays receiving their DACA renewals because of slow processing times or financial difficulties due to steep application fees. As a result of falling out of status, several were forced to leave their jobs.

Recall Maria—the DACA beneficiary from New York who utilized her DACA status to gain lawful employment and access necessary resources for her family. With five younger siblings and a single mother, Maria’s ability to work was essential for her family to meet the costs of rent and food. While in college, Maria went through two renewals. She tried to submit her applications as soon as she could but coming up with the \$465 application fee was a huge burden on a part-time salary. Both times, Maria suffered a gap in status that left her unable to work.

“ At times, things were great. I was working part-time, going to school. I was living a life that I did not imagine I could have. But then... I remember two semesters, two summers I did not work, and that was because my DACA had expired, and I had not renewed it in time... During that time, I was in a kind of limbo, and it was just again like that band-aid was ripped off. They were like, ‘Okay you worked for a little bit, now you have to wait again.’ ”

Without her income, Maria’s family suffered bouts of food insecurity—sometimes having only eggs in their refrigerator. While DACA substantially improved Maria’s quality of life, the fear of falling out of status perpetuated status-related fear and anxiety.

In addition to these potential setbacks, the process of submitting renewals had deeper psychological effects on our respondents. Eddie, the DACA beneficiary from Arizona who described his ever-present fear of deportation, expressed his frustration with the impermanence of his DACA status.

“ Once you have to renew it, you have to start from scratch. For example, you’re working. You’ve got the [work] permit. You’re a hard worker. You’re a part of a team. Your co-workers know you. They get to understand who you are, how you act, and everything. Out of nowhere, just because two years are done, they treat you like you’re nothing. You’ve got to go through the [process] all over again. That means that you could be fired, or you could be without a job for a couple of months because you need to renew something that they already know you have. ”

When hundreds of renewal applications were delayed by the USCIS, resulting in DACA holders falling out of status and having to leave jobs,¹⁶ Lee, a DACA beneficiary from Illinois, fell

out of status. This incident not only impacted his financial security, but it also had the effect of wearing thin an already fragile sense of security.

“ I just don’t understand. I sent [the renewal application] in on time. I’ve been told there’s like, the system is backed up and they’re not processing applications on time. I don’t know, I did what I was supposed to do. But I had to wait like almost three months, and in that time, I was what they call “out of status.” It really put me right back where I was before. It was that slap in the face reminder that I’m still undocumented. I’m still vulnerable. I could be arrested and deported like that. It really brought me down. ”

As the renewal process exposed for DACA beneficiaries the fragility of their semi-legal status, persistent exclusions drew bold lines marking the limits of their belonging. Many of our respondents lamented that even though they experienced short-term gains through DACA, they still felt excluded from the political process, since they lacked the right to vote. For example, Maria explained that while she felt more secure having a state-issued ID and a Social Security card, she felt uncomfortable that these particular forms of identification marked her as different from her citizen peers.

“ My social security card says “For Work Authorization Only” in all caps. I feel like that has definitely always been like a marker for me. Employers will ask, ‘So what is this about?’ I definitely feel like it shows me in a different light. They do not know what to do, and sometimes it’s like ‘Oh, you are one of them.’ ”

For Maria, these designations served as a constant reminder that she is only partially recognized as a member in society.

In addition to leaving beneficiaries with continued anxiety and worry, the temporary and partial nature of DACA has curtailed economic opportunities and job prospects. For example, the strict requirements and long wait times of Advance Parole prevented beneficiaries from taking jobs which require international travel. Take Amir, the DACA beneficiary from New York who was studying computer science and working in IT management. Amir felt as though he had to limit his job search because of the difficulties traveling abroad. He explained that his job prospects would be limited without legal permanent residency.

“ Personally, I think that having the adjustment of status is necessary. A large part of management is being able to travel. Especially in IT management because there’s a lot of client sites that are located in other countries. And since I can’t travel, I’d be restricted in a lot of companies. [They] would see that automatically as a disqualification. ”

Additionally, DACA beneficiaries are prohibited from taking positions with the federal government, which amounts to roughly 2.8 million federal jobs off-limits to DACA beneficiaries. While Amir is interested in working in cyber security, he acknowledges that most positions fall under the jurisdiction of the federal government.

“ Government agencies, especially like the Department of Defense or other government agencies, they won’t hire you unless you’re a citizen. That’s something that I wanted to do for a long time—to work for a government agency. And that’s something that unfortunately I wouldn’t be able to do. ”

Amir is qualified for a wide range of jobs. He has plenty of relevant work experience, and he has excelled in computer science. Yet despite his qualifications, some of the highest-paying and most prestigious jobs in his career field are still out of reach.

Despite these exclusions, there are still a wide range of employment options available to DACA beneficiaries. However, many of our respondents worry that potential employers might discriminate against them if they knew they were DACA holders.

When Laura, the medical assistant from Arizona we profiled earlier, heard her supervisor refer to her as a “risk” she began to question her place at work and to worry about her future prospects there. Even though Laura had completed her medical assistant training program and secured employment as a medical assistant, her status marked her as different in her new workplace.

“ The doctor that I work for, I heard him mention one time that it was kind of a risk getting me and hiring me compared to people who could be citizens. Just because he thinks that if I were to get the papers taken away, then he would have to go through the whole process of ”

hiring somebody else. I kinda felt a little bad when he said that. I feel like I'm a good worker, and it shouldn't matter that I have DACA, because it's still status. I still have a Social Security. So, they shouldn't be saying that it's a risk.

”

Finally, for our older respondents, the DACA program came into effect several years after reaching working age. These respondents possessed many years of work experience. However, their resumes were still quite thin. Prior to DACA, they were relegated to the informal economy and low-wage work sectors, and they were unable to obtain relevant work experience in their desired fields. As such, they were not as competitive as their peers who had been able to build up direct and relevant experience during these formative working years. DACA could not help them make up for lost time. Ultimately, if DACA is no longer available, long-term consequences for the DACA workforce will remain. To this point, Bo describes how the timing of his DACA receipt and his inability to claim previous work experience negatively impacted his job opportunities.

Bo migrated to New York from China at age 11. His parents planned to join him, but their visa applications were consistently denied. Nevertheless, they wanted Bo to stay in the United States and acquire a good education. Unfortunately for Bo, the separation was incredibly challenging. Bo moved around frequently to different family friends' homes, never able to settle in and feel comfortable. After graduating from high school, he began working as a server in a Chinese restaurant to support himself through college. At the time, he was constantly rotating between taking classes and work—sometimes working full-time while enrolling in school part-time, other times taking more classes, but falling behind financially. During periods when he was trying to catch up financially, he was working nearly 72 hours a week. Bo's determination and resilience enabled him to graduate with a bachelor's degree after eight years of rotating between school and work. After receiving DACA, he found an entry-level customer service job at a corporate financial institution. Bo feels that his life is moving in a positive direction, but he still feels discouraged.

“ Before DACA, I was out there working. [But] I cannot really put that on my resume. So after I graduated, I have to start [at] zero. I have to like, go through the entry level positions, and then build out my resume from there. It’s just kind of depressing, like, you’re so far behind your peers. All my friends out of high school—like my American friends—they already moved on. They’re already like, senior level. Like, they already have a house. I mean, you can’t really think about that. ”

Compared to his friends, Bo feels behind, and this has lowered his self-confidence. While he had worked extremely hard before DACA, this experience could not translate into better job prospects once he received DACA. Bo tries to remain positive and celebrate his accomplishments, but he feels discouraged by the disadvantages he faces on the job market.

For Bo and other respondents who received DACA later in life, their inability to claim their work experience prior to DACA has limited their career trajectories. Years of experience in the low-wage informal labor market has given them extensive work experience. But, it does not help them launch professional careers.

Ongoing Family Vulnerability

While DACA beneficiaries are afforded temporary protection from deportation, they are connected to family members, partners, and friends who are not afforded the same level of access and relief. As such, their loved ones remain vulnerable. Not only do our respondents shoulder additional responsibilities to assist their undocumented loved ones, they also experience ongoing stress due to their loved ones’ deportability. In our 2013 survey, 70 percent of nearly 2,700 respondents told us that they knew someone—a family member, neighbor, co-worker—who had been detained or deported. What’s more, nearly two-thirds of those respondents indicated that they worried all or most of the time that someone they know would be deported.

Our respondents spoke at length about the need for broader immigration reform not only for themselves, but also for those close to them. Some carried guilt, as they had DACA status

while their family members remained vulnerable and unprotected. Many other respondents experienced new power imbalances at home due to their access to driver's licenses and lawful employment. And all of them continued to worry about their undocumented loved ones.

Take Gabriel, the DACA beneficiary from New York who finished a bachelor's degree in biology and continued to medical school. DACA ultimately provided him the assurance that an investment in medical school would lead to a career as a doctor. Yet, these newfound benefits made Gabriel even more acutely aware of his parents' vulnerabilities. His ability to work legally, pursue a career path, and access medical care served as constant reminders of what his parents could not do. Their continued vulnerabilities caused him continued stress and anguish. He not only felt guilt for their plight, but he also felt additional pressure to try to provide for them.

“ My mom initially worked for very little pay. She's definitely not treated the best by her employers, and not respected or appreciated for the work that she did. That's really a lot of hardship my mom has faced, just having to put her head down and knowing that she had to keep her job to provide for us. I am anxious that my parents are getting older. They don't have insurance. They don't have retirement benefits. I'm definitely always anxious about that, and I'm scared that the older they get, something can happen. ”

While Gabriel was anxious about his parents' health and well-being, Sofia worried about her parents' safety and future in the United States. Growing up in Arizona, Sofia often heard stories of relatives, community members, and other acquaintances being apprehended, detained, and deported. When her stepfather and older brother were deported, the experience sowed fear and worry within her family. After Sofia moved to New York, she worried that her parents could get picked up again back in Arizona. Living outside of the city and without access to public transportation, they had few options other than to drive to work. But this put them at risk, since neither had a driver's license. Living apart from her family members, Sofia says she is “super stressed out every day.”

“ If I was scared about my parents driving around without a license in Arizona before, now, it's doubled. I am constantly scared for them and what's going to happen today or tomorrow, it's super stressful. ”

While having DACA has provided our respondents a sense of safety and security, concerns for their parents and loved ones persist. The sentiments of Angela from Georgia powerfully underscore the palpable fear and stress that continue to frame the households of DACA beneficiaries.

“ I’m always scared. What if my mother gets deported out of nowhere? What if my older sister doesn’t fix her status? What’s gonna happen with her daughters? How is my brother-in-law gonna take care of things, and how is he gonna handle it? They’re very close. They live together. It’s a lot of, there’s still fear in my family. ”

As many DACA beneficiaries worry for their families’ well-being, they have also taken on more responsibilities within their households and communities. Our respondents told us that they were proud to do it. But, these additional strains are not experienced without stress and worry. And, as a result, new household configurations have created some new problems.

The Threat of DACA Termination

With DACA’s future in question, so too are the futures of DACA beneficiaries and other DACA-eligible young adults. Comparing respondents’ first interviews in 2015 and final interviews in 2019, we have seen marked declines in self-reported mental health and emotional well-being. Whereas DACA provided opportunities for beneficiaries to feel safer and more secure, recent events and a toxic political environment have brought feelings of stress, anxiety, and fear.

Gabriel, the medical student from New York, had always been active in his community. He had volunteered at DACA clinics, helped DACA beneficiaries apply for state-based Medicaid, and advocated for medical schools to assist prospective DACAmented medical students. After the DACA termination, he became dispirited. His anxiety also affected his performance at medical school, and he felt increasingly discouraged.

“ I would say [it] almost broke me and my hope for anything getting better. It came out of nowhere and I think I struggled a lot. It definitely affected my performance in my first year ”

of med school. I think ever since, I've just become pretty burned out. I've completely lost my connection to being an activist. I'm really just feeling that the only thing I can do is focus on medical school and not much else. It's like a game. It's like all politics. No one really thinks about the human aspect.

”

Many people in Gabriel's circle—family and friends—are now afraid to access health care or visit their children's schools, with increased fears of Immigration and Customs Enforcement (ICE) and the threat of deportation. Gabriel withdrew from many of his community activities and decided to put his head down and just focus on his studies.

In addition to the strains on beneficiaries' health and well-being, the threat of DACA expiration has put a damper on our respondents' abilities to plan for their futures. Without knowing the future of DACA, their own futures are opaque. As a result, many of our respondents are now hesitant to purchase homes, sign leases, or continue investing in their education. Many worry that their options for work will be limited to exploitative or low-paying jobs in the informal economy, despite the gains they have made in educational and professional development.

Take Ramiro, a DACA beneficiary from California who, prior to DACA, faced workplace exploitation and abuse. Still, Ramiro dreamed of becoming a doctor and providing healthcare for underserved communities. With the help of DACA and his incredible determination and resilience, he enrolled in community college, then transferred to a top-tier research university, and ultimately completed his bachelor's degree in chemistry. In 2019, Ramiro was holding two jobs—as a medical scribe and a research assistant—to build his resume and experience for medical school applications. Yet despite his progress, Ramiro was more concerned than ever about his eligibility for medical school and his ability to finance it.

“

Policies have a huge impact on individuals. From my own experience, being a person who works hard, who doesn't give up—these kinds of opportunities and these kinds of policies help me go onto my next step. They are extremely important. There's a lot of people like me who are out there doing amazing things and accomplishing the impossible just with a little bit of help from these policies. Many, many of us have become teachers, many of us have become doctors, many of us have become organizers, social workers—you name it. Even business entrepreneurs. It has had a huge impact to benefit society as a whole.

So definitely, I urge politicians and other people who have a voice to stand up against xenophobic and racist policies because that is affecting a lot of people who are trying to do good for the country.

”

As Ramiro’s words powerfully underscore, the socioeconomic benefits of DACA are clear—for DACA beneficiaries and their families, communities, and the broader U.S. society. If DACA were to ultimately be terminated, it would curtail, and in many ways reverse, the significant progress which DACA beneficiaries have made in their personal and professional lives.

The feelings of fear, anxiety, and stress related to the termination of the DACA program point to the profound meaning DACA has had for beneficiaries, their families, and the broader immigrant community. While the program is not the comprehensive immigration solution needed to fully lift immigrant families, ending the program would create disenfranchisement and everlasting barriers for a population that has worked so hard to realize their dreams.



Conclusion

The experiences of our respondents over the last seven years powerfully highlight the importance and success of DACA—the results are indisputable. DACA has given its beneficiaries and their families a giant boost and they have achieved significant social mobility. It has also powerfully shaped personhood and agency. Nevertheless, the temporary and partial nature of DACA leaves many issues unaddressed and has created some new dilemmas.

The findings of this report have clear implications for U.S. immigration policy and community practice. In this last section, we offer a set of recommendations for policymakers, stakeholders, and educators. Ultimately, we believe that a broader immigration reform that includes a pathway to legalization would resolve most challenges experienced by DACA beneficiaries and their families. However, we also acknowledge that needs are urgent, and that a range of community stakeholders may be able to address many issues locally and immediately.

Expanding Access to Educational Opportunities

Throughout this report, we have highlighted the positive impacts of DACA on our respondents' educational pathways. Access to work authorization has provided new hope that beneficiaries will be able to work in relevant careers upon graduation and, has, as a result, motivated young people to find onramps back to educational programs. Still, educational barriers remain for DACA beneficiaries, while a larger number of undocumented students not covered by DACA seems to be falling further behind. What's more, given the uncertainty of DACA's future, access to higher education benefits, professional development, occupational licensure, and driver's licenses must be delinked from DACA status.

The narratives of our respondents have demonstrated how DACA has inspired beneficiaries to complete their GED or high school education and to pursue a postsecondary education. In addition, tuition equity policies in certain states have provided an even greater boost to those pursuing four-year and post baccalaureate degrees. Access to in-state tuition has helped our

respondents finance postsecondary pursuits. These state policies have made community college, four-year universities, and even graduate school more attainable for our respondents. In addition, access to driver's licenses has provided respondents greater transportation options to get to educational programs and university campuses. By contrast, many respondents in exclusionary states that limit educational access and financial support had difficulty pursuing degrees and acquiring the requisite training in their fields. And, those in states without policies struggled to find additional resources for higher education.

Educators hold the responsibility of providing all students with a safe and supportive learning environment. Educators can support DACA beneficiaries and undocumented students not covered by DACA by ensuring that information about college and scholarship access is integrated into their general college-going outreach. Since higher education policies vary across the United States, these resources should be tailored to state-specific policies and practices regarding DACA beneficiaries and undocumented students, more generally. Most importantly, educators can more intentionally cultivate college-going identities regardless of students' immigration status, so that DACA beneficiaries and undocumented students have the support and fortitude to overcome additional educational barriers.

K-12 and postsecondary institutions can also foster inclusive, equitable, and diverse campus climates for all students. Campuses can provide professional development opportunities in order to train faculty and staff as trusted personnel, create visible and viable networks of support, and establish campus climates as supportive and safe. Schools and communities can also widen the menu of educational and community-based pursuits young people can pursue regardless of their immigration status. And these institutions can better connect families to legal, mental health, and social resources within the broader community.

Educators and administrators can utilize their power and community capital to advocate for inclusive policies that promote the retention and success of all students.

Bolstering Work and Career Pathways

The experiences of our respondents also demonstrate the profound career mobility of DACA beneficiaries. DACA has enabled our respondents to access jobs in the formal labor market, receive wage increases and promotions, and establish careers. Our respondents leveraged short-term training opportunities to find entrée into new professions. They found onramps back to postsecondary education that allowed them to pursue graduate programs and to be competitive in the labor market. And, they took advantage of these opportunities to move up the mobility ladder.

Yet, the career pathways of our respondents have also been conditioned by certain limitations. Despite work authorization, many respondents found certain avenues closed because, as DACA beneficiaries, they still faced certain exclusions. In particular, positions in the federal government, employment that requires overseas travel, and licensed occupations are currently all off-limits. What's more, many respondents found their employers to be either unfamiliar with DACA or unsupportive of employees with DACA. And, finally, many older DACA beneficiaries find themselves at a competitive disadvantage because of their lack of relevant experience in their fields.

To combat these challenges, policymakers and practitioners can develop trainings and workshops for human resources departments, so that employers know how to process workers with DACA. Additionally, employers can better support DACA beneficiaries themselves by recognizing the skills and abilities garnered through experience in the informal labor market.

Our respondents' experiences also highlight the importance of state-issued identification and driver's licenses. The ability to obtain a driver's license broadened respondents' possibilities for work and training. By establishing consistent and swift processes for issuing identification and driver's licenses (and, again) delinking them from DACA status, states can enhance DACA beneficiaries' abilities to harness employment opportunities and access important resources.

Finally, states can also help DACA beneficiaries actualize careers by ensuring that professional licensure is accessible. Because New York and California grant professional licenses to

DACA beneficiaries, those residing in these states have been able to pursue licensed occupations. By contrast, in states without these inclusive policies, respondents' pursuits of certain career pathways were cut short due to their exclusion from professional licensure. By passing legislation to extend licensure opportunities, states can ensure that a broader number of people can pursue careers that match their skills and education.

As DACA beneficiaries and their families await news regarding the future of DACA, and as policymakers and community stakeholders work to address the inequities perpetuated by a lack of comprehensive immigration reform, uncertainty and anxiety has shaped everyday life. Over the last seven years, DACA has proven to be successful, dramatically improving social mobility, health, and well-being for hundreds of thousands of young people and their families. Due to its success, DACA is widely popular and has been enormously beneficial to communities, the U.S. economy, and educational institutions. At a time of growing anxiety, our nation's decision makers would be best served by recognizing that DACA's success is a net benefit to our great country.



Endnotes

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12 On June 28, 2013 California Governor Jerry Brown signed two key bills, ABx1 1 (Perez) and SBx1 1 (Steinberg/Hernandez), which simplified and expanded Medi-Cal for low-income adults who are U.S. Citizens, Legal Permanent Residents, or PRUCOL, including DACA beneficiaries, if their annual income is less than 138% of the Federal Poverty Level.

13 Advance Parole permitted DACA beneficiaries to re-enter the United States after traveling internationally. On September 5, 2017, the Trump administration announced a move to terminate the DACA program. After this announcement, DACA beneficiaries could no longer apply for Advanced Parole.

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The Immigration Initiative at Harvard (IIH) serves as a place of convening for scholars, students, and policy leaders working on issues of immigration—and a clearinghouse for rapid response, non-partisan research and usable knowledge relevant to the media, policymakers, and community practitioners.

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Recent Immigration Has Been Good for Native-Born Employment

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Introduction

Groups in favor of reducing immigration often voice the concern that immigrants compete with native-born Americans for jobs, and that this competition reduces the rates at which native U.S. workers are employed. This perspective often stems from the basic economic law of supply and demand in which an increase in the supply of workers should push down wages or produce unemployment when other things are held constant.

It is true that the laws of supply and demand apply to all participants in the U.S. economy; all residents, businesses, workers, and owners of capital must reckon with the market conditions where they operate. But U.S. workers are not a monolithic group, nor are U.S. businesses, consumers, or immigrants. While many immigrants have low levels of education compared to natives, some possess advanced degrees. Similarly, U.S. workers are a diverse group. Not all U.S. workers compete with immigrant labor; some are coworkers or supervisors who benefit from their presence. In reality, combinations and adjustments in the economy means that the actual impact of immigration on U.S. jobs could be negative, could be zero, or could even be positive if immigration expands new business opportunities by stimulating demand. We need to examine real-world data in order to reveal the true story about the impact of immigration on the U.S. job market.



When we examined trends in employment rates of native U.S. workers compared to trends in foreign-born shares of the local labor force between 2005 and 2016, we found that employment rates for native workers actually rose by a small amount when more immigrants arrived.

When we examined trends in employment rates of native U.S. workers compared to trends in foreign-born shares of the local labor force between 2005 and 2016, we found that employment rates for native workers actually rose by a small amount when more immigrants arrived. This pattern held true across a diverse set of U.S. regions and did not reflect any exodus of native workers from the labor force. The data show that the presence of immigrant labor coincided with enhanced employment opportunities for native workers during this period, meaning that the arrival of these individuals does not reduce native employment rates.

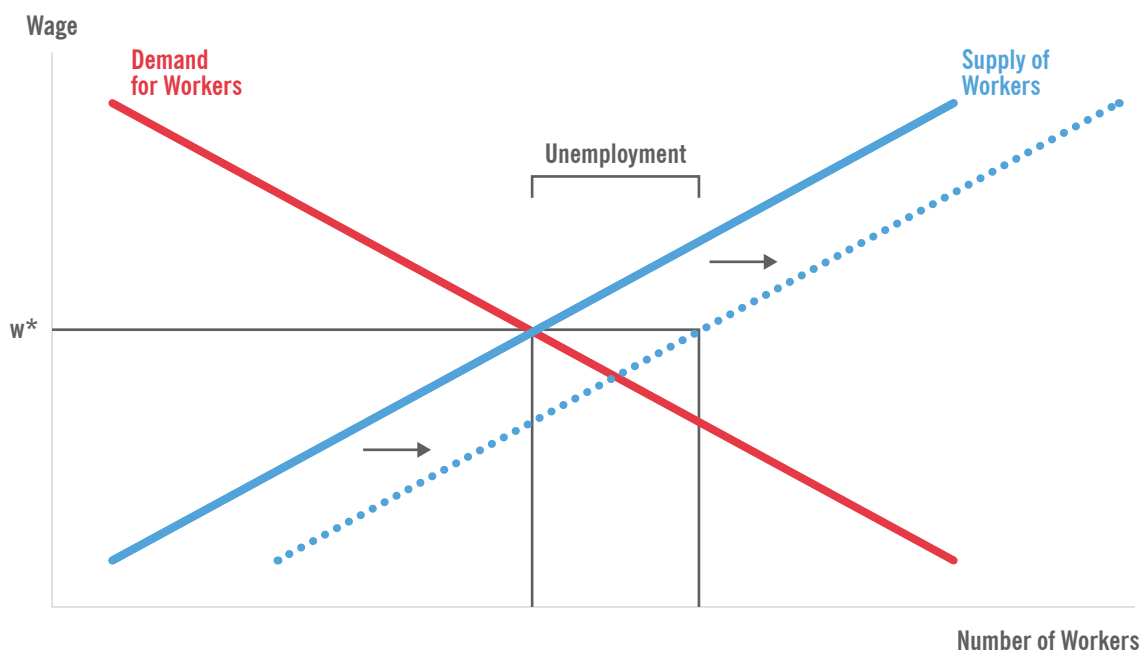
These results have significant implications for the policy debate around immigration. While economic vulnerability among U.S. workers and families is a real phenomenon, our finding—especially the fact that immigration does not coincide with lower native employment rates—should lead to a reassessment of policies that seek to restrict immigration because of an assumption that immigrants take jobs from native workers. We believe that policymakers should approach reforms to immigration policy based on the evidence, which does not show significant job effects of immigration.

Basic Economic Theory

Sometimes policymakers and interest groups who are opposed to immigration voice the concern that immigrant workers will cost Americans jobs, as if there is a fixed and unchanging number of available jobs. In this view, immigrant workers by their very presence must be taking jobs away from native workers. This popular misconception, often called the “Lump of Labor Fallacy,” is implicitly held in many spheres of public policy, but is uniformly rejected by economists across the political spectrum.^a A compelling counterexample in the U.S. is the monumental rise of female labor force participation from 32% to 60% between 1950 and 2000, which did not reduce male employment by the same amount over this period.¹

Economic theory begins with the reality that workers supply labor in markets, where competing and complementary factors like other similar workers, managers, subordinates, and technology all play important roles. Simple economic theory suggests that without any shift in the demand for workers, an increase in the supply of workers should either reduce wages or raise unemployment. This dynamic is illustrated in Figure 1A below, where w^* indicates the original equilibrium wage at which all workers looking for work could find a job, and the labor supply curve has shifted outward to the right because of the arrival of immigrant workers. The new intersection of supply and demand implies that wages should fall, and that if workers cannot afford to work for less than the original wage, unemployment will increase instead.

Figure 1A. An Increase in the Supply of U.S. Workers

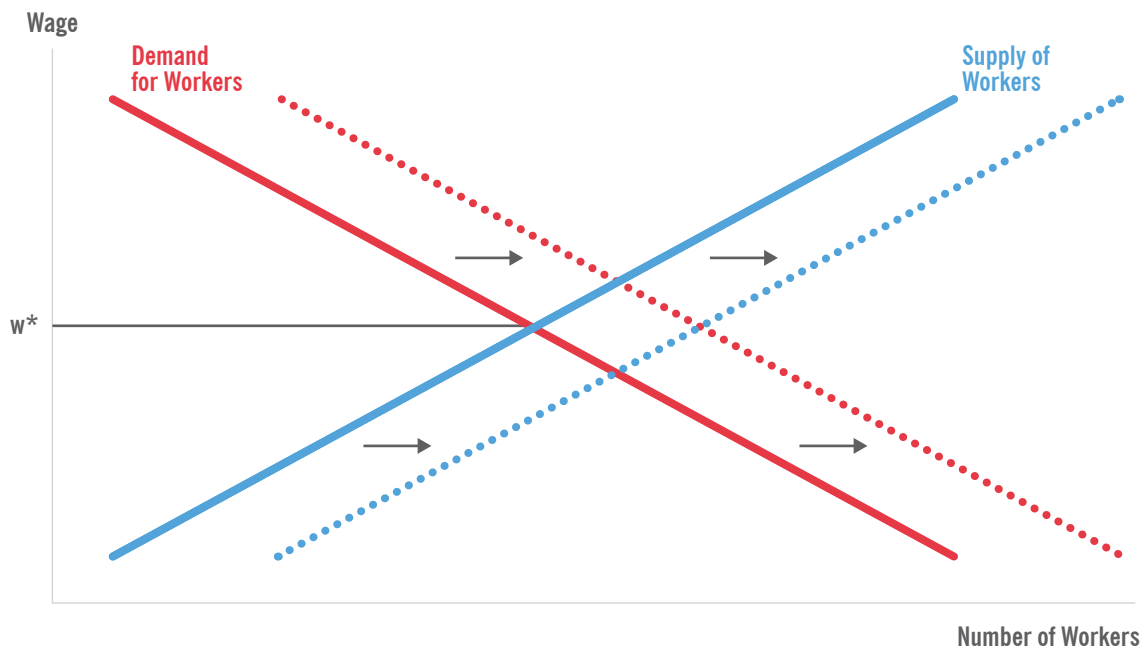


This reasoning is sound but potentially incomplete. First, the arrival of immigrant workers could prompt U.S. businesses to invest in new capital, acquiring more equipment, structures, and machinery to complement the additional labor. Second, the arrival of immigrant workers could make native U.S. workers more productive, if immigrants’ skills and talents are more complementary with those of natives rather than being direct copies. For example, the availability of immigrant labor could enhance the productivity of natives through more efficient division of tasks and responsibilities

^a For a view from the right, see John F. Cochrane, “Trade and Immigration,” Chapter 9 in George P. Shultz, ed., *Blueprint for America* (Palo Alto: Hoover Institution, 2016). 109-125. Available at: https://www.hoover.org/sites/default/files/research/docs/george_shultz_blueprint_for_america_ch9.pdf. For a view from the left, see Paul Krugman, “Lumps of Labor,” *The New York Times*, October 7, 2003. Available at: <https://www.nytimes.com/2003/10/07/opinion/lumps-of-labor.html>.

between them, playing to the unique strengths of each.^b Both of these scenarios suggest that immigration might increase the demand for U.S. workers by making them more productive. Figure 1B shows the two dynamics together, which could either raise or lower native employment and wages, depending on the size of these two effects.

Figure 1B. Increases in the Supply and Demand for U.S. Workers



There are many examples of economic phenomena where simple theory is equivocal. The sea-change in women's work during the second half of the 20th century is one such example. If only large increases in female labor supply were occurring, the simple model would predict large reductions in wages for men and for subsequent younger cohorts of women. History has shown the reverse to be the case. The demand for labor must have shifted strongly outward due to advancing technology and ostensibly to new complementarities in production between male and female workers.

Another famous example is the case of the college wage premium, which is a persistently large bonus in the earnings of U.S. workers who hold a four-year college degree compared to other workers.^c Despite sustained increases both in the absolute number and relative share of workers with a college degree over the past several decades, the college premium remains large. This pattern implies that a significant increase in the demand for college-educated workers must have coincided with the expansion in their supply, and it must be continuing.²

Simple economic theory alone cannot reveal or model these nuances of reality. Rather, it is the application and testing of a variety of theoretical perspectives with observed patterns in the data that reveal the truth.

Before we describe our analytical framework and our results, we discuss the data that we examine and the broad contours of recent patterns in U.S. immigration that they reveal.

^b For a discussion of capital investment behavior by firms and worker complementarity, see Ryan Edwards and Francesc Ortega, "The Economic Impacts of Removing Unauthorized Immigrant Workers," Center for American Progress Report 2016. Available at: <https://www.americanprogress.org/issues/immigration/reports/2016/09/21/144363/the-economic-impacts-of-removing-unauthorized-immigrant-workers/>. And Ryan Edwards and Francesc Ortega, "The economic contribution of unauthorized workers: An industry analysis," *Regional Science and Urban Economics* 67(2017): 119–134. Available at: <http://dx.doi.org/10.1016/j.regsciurbeco.2017.09.004>.

^c For background and a discussion of recent trends, see Robert G. Valletta, "Recent Flattening in the Higher Education Wage Premium: Polarization, Skill Downgrading, or Both?" in Charles R. Hulten and Valerie A. Ramey, eds., *Education, Skills, and Technical Change: Implications for Future US GDP Growth* (Chicago: University of Chicago Press, 2016). Available at: <http://www.nber.org/chapters/c13705.pdf>.

Recent Trends in Immigration

The U.S. is a nation of immigrants, both in terms of its historical origins and trends in the share of the population who are immigrants. In 2016, nearly 44 million U.S. residents were foreign-born, representing 13.5 percent of the population. This is near the historical peaks of the late 19th and early 20th centuries, as shown in Figure 2A.

Figure 2B spotlights trends in recent data, especially the annual iterations of the American Community Survey (ACS) from 2005 through 2016, the most recent public release. The ACS was introduced by the U.S. Census Bureau as a replacement for the long form of the decennial census, and it contains detailed characteristics that are measured annually for about 1 percent of the U.S. population. As Figure 2B depicts, the immigrant share of the population actually plateaued and fell slightly during the Great Recession of 2007-2009 before resuming a more gradual upward climb.

Figure 2A. The foreign-born share of the U.S. population since 1850

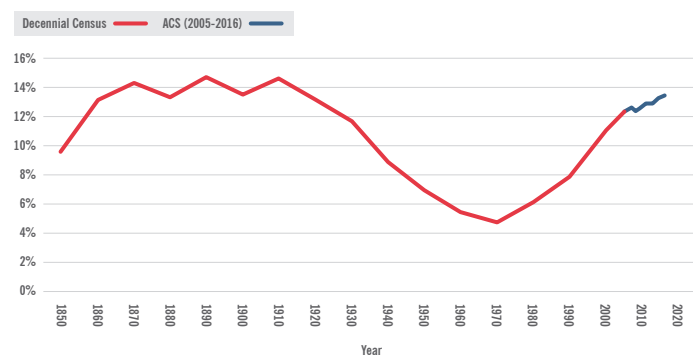
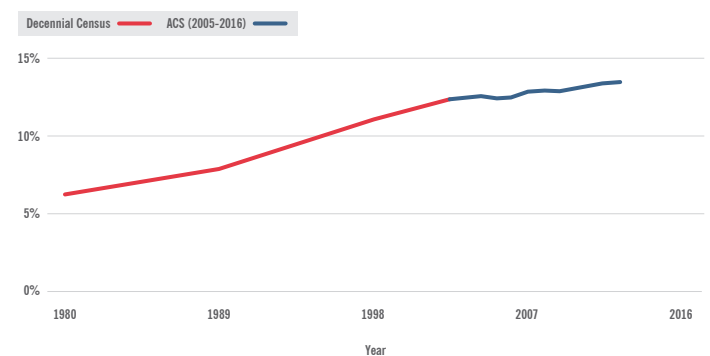


Figure 2B. The foreign-born share of the U.S. population since 1980

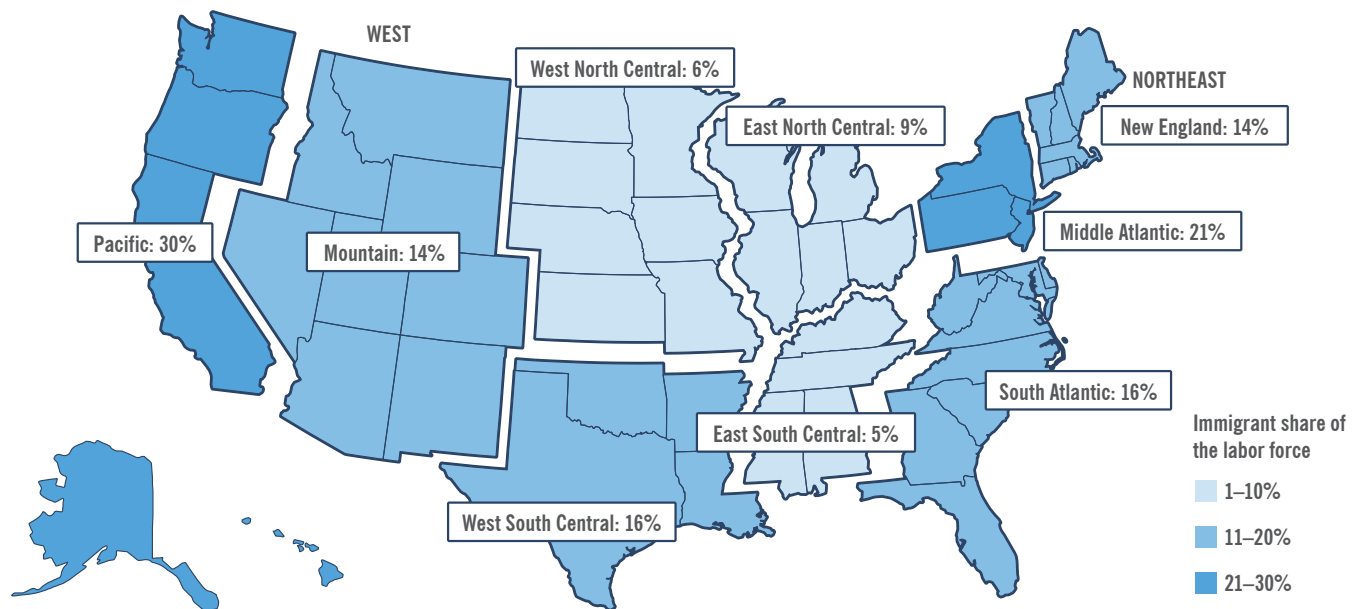


Note: Statistics are drawn from the decennial census up to 2000 and the American Community Survey from 2005 onward.^d

Underneath these national trends are strikingly different levels and trends in the immigrant share across U.S. geographic regions. We can most easily visualize these when we focus on the nine geographic divisions defined by the U.S. Census Bureau.^e Figure 3 displays the foreign-born shares of the labor force, consisting of all employed workers plus the unemployed, for each U.S. division in 2010. Although immigrants as a group differ from natives in terms of their age structure and are more likely to be of working age, regional patterns in the percent of foreign-born are similar whether we examine the total population or the labor force. Because we are concerned with labor market impacts in this study, we focus on the labor force.

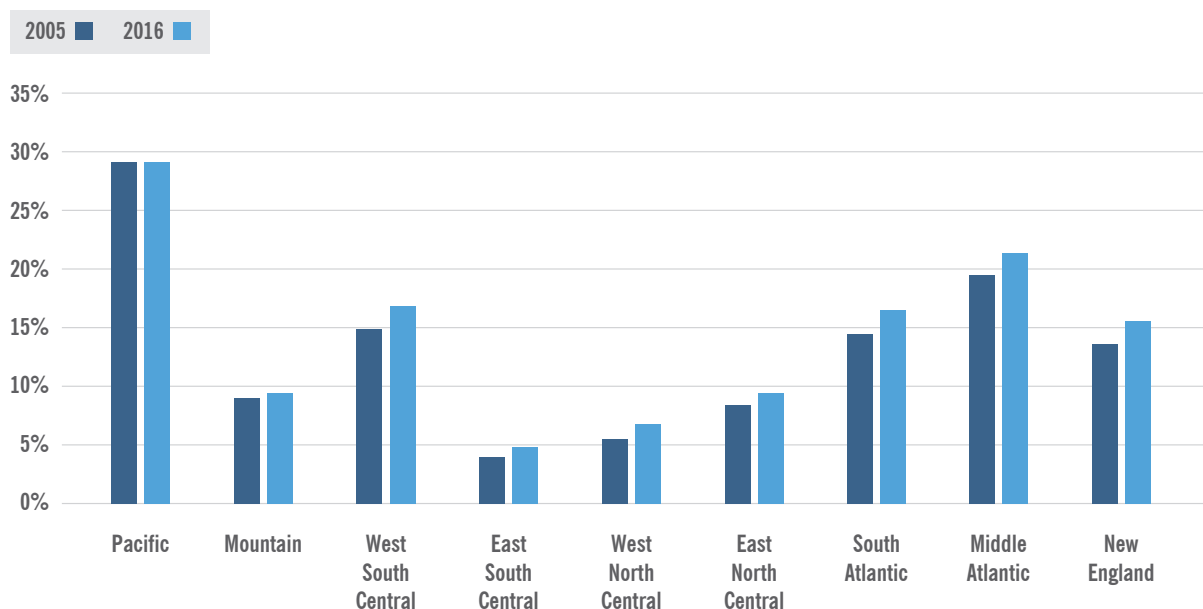
^d Historical statistics are provided by Mary C. Waters and Marisa Gerstein Pineau, eds., *The Integration of Immigrants into American Society*, Panel on the Integration of Immigrants into American Society, Committee on Population, Division of Behavioral and Social Sciences and Education, National Academies of Sciences, Engineering, and Medicine (Washington: National Academies Press, 2015). Available at: <https://www.nap.edu/catalog/21746/the-integration-of-immigrants-into-american-society>; Annual data from 2005-2016 are derived by the authors from the American Community Survey extracts provided by Steven Ruggles, Katie Genadek, Ronald Goeken, Josiah Grover, and Matthew Sobek, *Integrated Public Use Microdata Series: Version 7.0* [dataset]. (Minneapolis: University of Minnesota, 2018). Available at: <https://doi.org/10.18128/D010.V7.0>.

^e The Census Bureau graphically depicts regions and divisions in a map of the 50 states here: https://www2.census.gov/geo/pdfs/maps-data/maps/reference/us_regdiv.pdf

Figure 3. Foreign-born shares of the labor force across U.S. regions, 2010

Note: Statistics are drawn from the American Community Survey and displayed over original map produced by the U.S. Census Bureau.

The lowest immigrant share of the labor force across U.S. divisions in 2010 was 5 percent in the East South Central division, which consists of Alabama, Kentucky, Mississippi, and Tennessee. The highest share was 29 percent, or almost six times larger, in the Pacific division, which includes Alaska, California, Hawaii, Oregon, and Washington State. Between these extremes, the immigrant share in the other seven division still varied broadly, ranging from 6 percent in the West North Central division, which includes Iowa, Kansas, Minnesota, Missouri, Nebraska, and North and South Dakota; to 21 percent in the Middle Atlantic division, consisting of New Jersey, New York, and Pennsylvania.

Figure 4. Foreign-born shares of the labor force across U.S. divisions, 2005 and 2016

Note: Statistics are drawn from the American Community Survey.

In addition to these large differences in the immigrant share across geographic divisions, there also are large differences across divisions in how those shares are changing over time. As shown in Figure 4, the Pacific division maintained the largest share of immigrants in its labor force over the period, which was virtually unchanged at 29 percent. But other divisions with lower immigrant shares experienced large increases. Absolute percentage-point increases, visible in the differences between the two bars for each division, were largest for the Middle Atlantic division, and for the West South Central division. Those divisions began the period at 19 percent and 15 percent, respectively, and ended at 22 percent and 17 percent.

For divisions less historically accustomed to immigration like the West North Central and East South Central divisions, increases were smaller in absolute terms but very large on a proportional basis. The percent of foreign-born in the West North Central division rose 40 percent from 5 percent to 7 percent of the labor force. The East South Central division began from a smaller base share of 4 percent and experienced a similarly large percentage increase. In summary, Figure 4 reveals there are great asymmetries across the country in recent levels and changes in immigration.

These recent patterns of immigration have sometimes been called the “new geography of immigration.”³ This dynamic is often thought to be associated with an increase in economic production in suburban as opposed to dense urban areas. Whatever the cause or correlates might be, this new geography of U.S. immigration implies that areas of the country that currently receive the most immigrants do not benefit from the historical experiences of traditional immigrant-receiving areas. And if the new geography of immigration is indeed driven by the growth of employment opportunities in suburban areas, one may expect that native workers, employers, and industries in the new receiving areas are keenly aware of the presence of new immigrants and may be interested in assessing their role in the changing economy.

As we have discussed, simple economic theory is unclear on this question, and providing a full answer requires examining the data. In the next section, we explain our analytical framework and estimation approach and discuss how it mirrors the state-of-the-art in the relevant scholarly research.

Analytical Approach

If it were possible, the ideal way to assess the effect of immigration on native employment would be to examine a labor market before and after an influx of immigrant workers, and then compare what happened to a *counterfactual* case where the very same labor market was observed during the same period but without the new immigrant workers. Because this ideal comparison cannot be observed, social scientists usually seek instead to compare changes they can observe over time among labor markets that fit the characteristics of *control* and *treatment* groups, just like in a randomized medical trial.

The most famous example of a study comparing control and treatment groups in the field of immigration research is the comparison of the Miami labor market around 1980, which received a large number of Cuban “Marielitos” as refugees from the Castro regime, to a set of reasonable “control” cities during the same period.⁴ By failing to find evidence of any reduction in local wages or employment in Miami relative to other cities, the original study turned conventional wisdom on its head. Academic controversy about this result continues, with much focus on narrowly defined groups of vulnerable native workers and whether the underlying data are rich enough to accurately measure their conditions.⁵ Although disagreements remain, the consensus in academic thinking about the economic impacts of immigration on natives is that effects are usually small or zero and tend to vary across native characteristics.⁶

In a new study, we revisit this question by comparing a broad array of geographic labor markets “treated” with increased immigration to another broad array of labor markets that are not.⁶ We use a standard statistical estimation technique and we apply it to a relatively new and rich dataset, the 12 publicly available annual waves of the American Community Survey (ACS).⁷ Our technique, which is commonly used in applied social science literature, is a generalization of the method that compares changes over time among treatment and control groups to estimate the effect of the treatment, which in this case is higher immigration.

Each annual wave of the ACS provides roughly 3 million observations of residents in households. Our unit of analysis is the Public Use Microdata Area (PUMA), of which there are roughly 1,000 that do not cross state or regional boundaries. PUMAs are similar to counties (which number approximately 3,000), but are larger than the smallest counties by population. The Census Bureau designed the PUMAs in order to capture the highest geographic resolution annually, while preserving the anonymity of survey respondents.

For our study, we examine PUMAs rather than counties or other levels of geography in order to examine dynamics at the smallest geographic level possible while preserving critical variation over time and maintaining a national scope to our study. Within each PUMA, we examine how the employment rate among native workers changed with the immigrant share of the labor force. Our standard estimation technique then compares changes in the native employment rate within geographic labor markets that are treated by more immigration to changes in native employment within markets where there are different or no changes in immigration. By holding constant other measured influences on employment, the technique then ascribes the observed difference to immigration.

⁴ Two reports of expert panels convened by the National Academies of Sciences on the subject speak with largely the same voice on the state of the scientific literature: James P. Smith and Barry Edmonston, eds., *The New Americans: Economic, Demographic, and Fiscal Effects of Immigration*, Panel on the Demographic and Economic Impacts of Immigration, Committee on Population and Committee on National Statistics Commission on Behavioral and Social Sciences and Education, National Research Council, (Washington: National Academy Press, 1997). Available at: <https://www.nap.edu/catalog/5779/the-new-americans-economic-demographic-and-fiscal-effects-of-immigration>. And Francine D. Blau and Christopher Mackie, eds., *The Economic and Fiscal Consequences of Immigration*, National Academies of Sciences, Engineering, and Medicine. (Washington: National Academies Press, 2017). Available at: <https://www.nap.edu/catalog/23550/the-economic-and-fiscal-consequences-of-immigration>.

⁶ The method is panel fixed effects, which is a generalization of the difference-in-differences estimation used by Card, *ibid.* and many others. Details are discussed in Ryan D. Edwards and Mao-Mei Liu, “A new look at immigration and employment in the U.S. since 2005,” *UC Berkeley: Center on the Economics and Demography of Aging*, 2018. Available at: <https://escholarship.org/uc/item/0q21g0b8>.

METHODOLOGICAL DETAILS IN BRIEF

We report results based on a standard model in social science that compares changes over time in native employment rates (Y) observed in small geographic areas (PUMAs) with high immigrant labor force shares (X) versus those observed in areas with low immigrant labor force shares. The technical name for this model is a panel regression with PUMA fixed effects, and it is a generalization of the difference-in-differences approach described in the text.

In this approach, we follow the standard procedure of controlling for other PUMA-level variables (Z) that might also affect native employment rates and might also be changing. These include the age structure of the population; percent male; percent in five race/ethnicity categories, including percent Latino or Hispanic; percent in seven educational attainment categories; percent living in a metro area; and indicator variables for each year in the sample (2005-2016).

This method identifies an effect of the immigrant labor force shares (X) associated with the native employment rate (Y) that is analogous to what a researcher would find when comparing two otherwise identical labor markets, one of which received an influx of immigrants while the other did not.

Native Employment Climbs with Immigration

Contrary to what the basic economic theory of immigration predicts, we find that rising foreign-born shares of the local labor force are associated with increases in native employment rates over the 2005-2016 time period. **Our model predicts that with every percentage point increase in the foreign-share of the labor force, native employment rate will rise by between 0.055 to 0.075 percentage points**, a small but statistically significant effect on local labor markets that is economically meaningful.

In the average sample area, 1 percent of a PUMA's labor force is about 1,500 workers, while 1 percent of native employment is roughly 1,100 jobs (the average PUMA has a ratio of immigrant to native workers of four to 21). Using the midpoint of our estimated effects, a coefficient of 0.065, we find that an increase of 20 immigrant workers is associated with about one native job created. **This result is noteworthy because**

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Our central result suggests that immigrant and native workers combine in the job market in productive ways that can expand the jobs available.

it stands in stark contrast to the dire predictions of a simple model in which immigrant workers displace natives.

It is also remarkable because it implies that labor force responses to immigration consist of more than just a keep-working or stop-working response by natives who are already working. **Our central result suggests that immigrant and native workers combine in the job market in productive ways that can expand the jobs available.**

For example, the rapid expansion of hires in a workplace might cause the creation of new management or human resources positions that would not have existed but for the presence of the additional workers. Immigrant workers are diverse, with many varying levels of education and skills, but patterns in the employment of immigrants by occupation reveal that language skills are variable and important in how businesses allocate different types of workers to different tasks.⁷ Firms might approach the challenge of heterogeneous skills among workers as an opportunity, by combining the unique services of immigrant workers with the unique skills of native-born workers.

ROBUSTNESS OF THE RESULT

We ran our results through a wide range of specification checks to ensure the main findings endured. Overall, our results are robust. **We found that our results were stronger in geographic areas with higher population density than in less dense geographic areas,** but there was a small positive response of native employment to immigration in both types of areas. This implies that our estimate of the national effect of immigration based on trends across geographic areas was a slight underestimate of the true average effect on native U.S. residents as a whole. This is because treating geographic areas as the unit of observation without accounting for their population differences weights the experiences of denser urban areas the same as the experiences of less dense rural areas. The unweighted results are certainly still relevant, because our politics are sometimes weighted toward the interests of states and other geographies, irrespective of population density. But because of stronger effects in higher population areas, more Americans overall are seeing these positive employment effects.

A major concern we had was whether our primary outcome measure, the employment rate of native workers, sufficiently captured all potential effects of immigration on native workers. As discussed in the accompanying box, the *employment rate* is the share of the labor force with a job. A more familiar measure is the unemployment rate, which is the share of adults who do not hold a job and are actively seeking work. A potential problem with using this type of outcome measure is the possibility of native workers *becoming discouraged* and dropping out of the labor force because of competition from immigrants. These workers would not appear in either the employment or the unemployment rate, since they are no longer considered part of the labor force. To explore this possibility, we re-estimated models with the employment-to-population ratio, a measure that would include the discouraged workers. If immigration discouraged native workers from seeking work, the native employment-to-population ratio would fall and thus reveal new information. But our results using the employment-to-population ratio revealed no evidence that immigration was pushing native workers out of the labor force. **More immigrants were associated with more native employment, measured either as a share of the labor force or of the whole population.**

We were also concerned whether the inclusion of the Great Recession in the time period spanned by our data somehow artificially created the results we found or meant that they implied something different than what they appeared to imply. The time period of our analysis, 2005 to 2016, was tumultuous and eventful, and it included the boom years before the Great Recession, the Great Recession itself, and the prolonged

UNEMPLOYMENT AND EMPLOYMENT RATES AND EMPLOYMENT-TO-POPULATION RATIOS

The official **unemployment rate**, reported at 4.1 percent in March 2018, is derived as the ratio of the unemployed to the sum of employed workers plus the unemployed. Individuals are defined to be unemployed if they are not currently working but are actively looking for work. The denominator in this ratio, the sum of all employed workers plus the unemployed, is called the labor force.

In this study, we examine the **employment rate**, which equals 100 percent minus the unemployment rate and measures the share of the labor force that is employed. Again, the denominator is the labor force.

A similar measure is the **employment-to-population ratio**, which is constructed as the ratio of employed workers to the total population. The denominator in this statistic is much broader and is comprised of a) the labor force; b) discouraged workers who are no longer looking for work; and c) students, retirees, homemakers, the disabled, and others not engaged in formal labor markets.

Because discouraged workers and other people are excluded from one measure and not the other, the two are often different. During the Great Recession of 2007–2009, both the employment rate and the employment-to-population ratio declined precipitously at first. In the years since, the employment rate has fully returned to pre-recession levels of about 96 percent, but the employment-to-population ratio has not and currently hovers at 60.4 percent or roughly the level it was in 1986.

recovery. We were most concerned that the recession may be driving the result “in reverse,” namely showing us reductions in immigrant labor and in native employment, and both likely in response to the recession itself and not because of one another. We found this was not the case, and **that the main driver of the results was coming from periods of growth in both immigration and in native employment. In particular, it appeared that the era of expansion prior to the Great Recession was a time during which native employment appeared to expand strongly alongside immigration.**

Past theory and evidence propose that the effect of immigration will vary for different groups of native workers, and to explore this we re-estimated our model using labor market outcomes for different groups of native workers defined by their educational attainment. **We found that the positive effect of immigration was stronger among natives with more education, while the effect was statistically insignificant among natives with less education. The largest positive effect of immigration was on the employment of native workers who had some college education but not a four-year college degree, which we found to be an interesting result.**

We also explored how our result varied across the nine census divisions. What emerged is a snapshot of considerable diversity, which is depicted in Figure 5. We found large and statistically significant influences of immigration on native employment in five of the nine division, which were a mix of areas with low and high immigrant shares alike. As Figure 5 shows, we found positive coefficients greater than 0.090 and statistically significant for:

- The Mountain division (Arizona, Colorado, Idaho, Montana, Nevada, New Mexico, Utah, and Wyoming);
- The West South Central division (Arkansas, Louisiana, Oklahoma, and Texas); and
- The East North Central division (Illinois, Indiana, Michigan, Ohio, and Wisconsin).

In these three divisions, the coefficient hovered around 0.094.

We also found large, positive effects of immigration for:

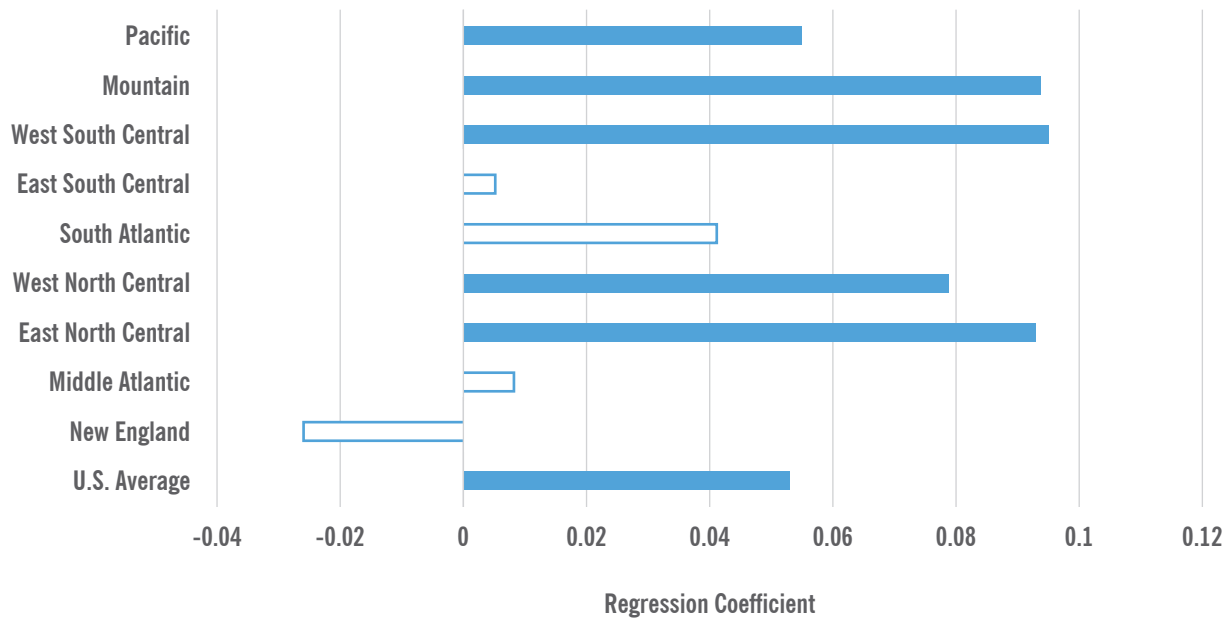
- The West North Central division (Iowa, Kansas, Minnesota, Missouri, Nebraska, North Dakota, and South Dakota); and
- The Pacific division (Alaska, California, Hawaii, Oregon, and Washington).

The coefficient was 0.079 in the West North Central division, where immigration was very low but grew rapidly during the period; and it was 0.055 in the Pacific division, where immigration was the highest and remained high.

In the four other divisions, the estimated effect of immigration was statistically insignificant, positively signed in three cases and negatively signed in the New England division. A noteworthy result is the null effect of immigration in the Middle Atlantic division, comprising New Jersey, New York, and Pennsylvania and containing the second-highest share of foreign-born workers of all divisions.

As we have seen, there is great variation in both the levels and changes in the immigrant share across divisions. However, we found that **the size of the positive employment effect was *not* explained by a division's immigrant share, nor was it explained by how fast the immigrant share was changing.** We suspect that differences in the native employment effect across divisions may be associated with the geographic variation in industries and the differential changes in the health of those industries over time. But a complete view awaits future investigation.

Figure 5. Diversity of Model Results Across U.S. Divisions



Note: Each bar represents a coefficient from a different regression of the native-born employment rate on the immigrant share of the labor force. Statistically significant results are represented in blue, while results that lack statistical significance are in white.

The differences across geographic areas in the effect of immigration on native employment is an opportunity for us to expand our understanding of the dynamics of immigrant absorption. It is not a simple story about positive effects on natives in traditional immigrant-receiving areas and negative or zero effects elsewhere, nor is it the reverse. However, given our findings that immigration does have (mostly positive) labor market impacts on native-born Americans, further research on these geographic differences would be welcome.

Conclusion: U.S. Immigration and Native Employment Have Risen Together

This study reviewed U.S. Census Bureau data to examine how changes over time in immigrant shares of the labor force is or is not related to changes over time in the employment rates of native workers within 1,000 local labor markets defined by geography. Simple economic theory suggests that without any offsetting influences, increases in the foreign-born share of the local labor force that are driven by increases in the supply of immigrant workers might reduce employment rates among native workers.

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Immigrant workers did not displace natives from jobs, as might be predicted by a simple model in which all workers were identical and businesses did not shift strategies to employ workers productively.

In stark contrast to this prediction, we find robust evidence that between 2005 and 2016, employment rates among native workers rose when the immigrant share of the local labor force increased. **Immigrant workers did not displace natives from jobs, as might be predicted by a simple model in which all workers were identical and businesses did not shift strategies to employ workers productively.** Rather, our analysis suggests either: 1) that native workers combined with new immigrant labor in productive ways that created more employment opportunities for natives, such as leveraging new divisions of labor; 2) that businesses expanded by outfitting their workers with more equipment and machinery; or 3) that both may have occurred.

Perhaps most surprising and compelling was the broad-based geographic robustness of this result. **Areas with already high shares of immigrant labor were not the only areas that benefitted from the arrival of new immigrants.** Instead, we found evidence of substantial employment gains by native U.S. workers in traditionally immigrant-scarce regions as well as in immigrant-plentiful regions.

The size of the effect we estimated was substantial but not enormous. Our estimates imply that every increase of 20 immigrant workers was associated with one additional job held by a native-born worker during the sample period. Native U.S. workers with some college experience but less than a four-year college degree appeared to benefit the most in terms of employment from the presence of new immigrants. The one-to-20 ratio of new jobs for natives to new immigrant workers seems consistent with a story of complementarities between classes of workers that other studies appear to confirm. The data suggest that in recent times, contrary to the popular political narrative, the presence of immigrant workers has not been a threat to the jobs of native-born U.S. workers, but instead a source of modest but real employment gains.

Endnotes

- ¹ John F. Cochrane, "Trade and Immigration," Chapter 9 in George P. Shultz, ed., *Blueprint for America* (Palo Alto: Hoover Institution, 2016). 109-125. Available at: https://www.hoover.org/sites/default/files/research/docs/george_shultz_blueprint_for_america_ch9.pdf
- ² Charles I. Jones, *Macroeconomics*, 4th ed. Chapter 7, (New York: Norton, 2016).
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- ⁴ David Card, "The Impact of the Mariel Boatlift on the Miami Labor Market," *Industrial and Labor Relations Review* 43(2), (1990): 245-257. George J. Borjas, "The Wage Impact of the Marielitos: A Reappraisal," *ILR Review*, vol. 70(5), (2017): 1077-1110. Available at: <http://doi.org/10.1177/0019793917692945>. Giovanni Peri and Vasil Yassenov, "The Labor Market Effects of a Refugee Wave: Applying the Synthetic Control Method to the Mariel Boatlift," *NBER Working Paper 21801*, (2015). Available at: <http://www.nber.org/papers/w21801>. Michael A. Clemens and Jennifer Hunt, "The Labor Market Effects of Refugee Waves: Reconciling Conflicting Results," *NBER Working Paper 23433*, (2017). Available at: <http://www.nber.org/papers/w23433>.
- ⁵ See especially Borjas, and Clemens and Hunt, *supra*.
- ⁶ Ryan D. Edwards and Mao-Mei Liu, "A new look at immigration and employment in the U.S. since 2005," *UC Berkeley: Center on the Economics and Demography of Aging*, 2018. Available at: <https://escholarship.org/uc/item/0q21g0b8>.
- ⁷ Kenneth Megan, "Immigration and the Labor Force, Part II," *Bipartisan Policy Center Blog Post*, September 21, 2015. Available at: <https://bipartisanpolicy.org/blog/immigration-and-the-labor-force-part-ii/>.

Notes

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3

Employment Rights of Aliens Under the Immigration Laws

SAM BERNSEN*

EMPLOYMENT rights of aliens under U.S. immigration laws cover a variety of situations ranging from the lawful permanent resident to the undocumented alien.

A nonimmigrant who works without authorization is subject to deportation.¹ If he was admitted under a bond to assure maintenance of nonimmigrant status, unauthorized employment may result in forfeiture of the bond.² In 1976, a new dimension was added to these penalties.³ By amendment of Section 245 of the Immigration and Nationality Act, 8 U.S.C. 1255, acceptance of unauthorized employment prior to filing an adjustment application for permanent resident status under that section makes him ineligible for adjustment, unless he is an immediate relative of a U.S. citizen.⁴

An alien who engages in unauthorized employment does not commit a criminal offense and the employer of the alien is not in violation of Federal law. Several attempts in the Congress to enact legislation to penalize employers of aliens not authorized to work have failed.⁵ However, several states have enacted such laws. These include California, Connecticut, Delaware, Florida, Kansas, Maine, Massachusetts, Montana, New Hampshire, Vermont and Virginia. Puerto Rico and Las Vegas also have such laws. The Supreme Court has held the state enactments to be constitutional if they do not conflict with Federal law.⁶

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¹ 8 U.S.C. 1251 (a) (9).

² 8 CFR 103.6 (b) (2).

³ Act of October 10, 1976; P.L. 94—571, Section 6.

⁴ 8 U.S.C. 1255 (c).

⁵ H.R. 16188 (1972); H.R. 982 (1975); S. 3074 (1976); H.R. 9531 (1977); S. 2252 (1977).

⁶ *See, De Canes v. Bica*, 424 U.S. 351 (1956).

LAWFUL PERMANENT RESIDENTS

An alien who has acquired the status of lawful permanent resident under the immigration laws is accorded the privilege of residing permanently in the United States.⁷ The law is silent as to whether an immigrant can work, but there has never been any question that the right to engage in employment is inherent in the nature of the privilege.

This does not mean that the right to work of an alien lawfully admitted for permanent residence is entirely unqualified. If the alien was admitted as an immigrant on the basis of a labor certification issued under Section 212 (a) (14) of the Immigration and Nationality Act, 8 U.S.C. 1182 (a) (14), he is not free to ignore the terms of the certification and take employment in a job for which he was not certified. An alien who takes uncertified employment risks deportation.⁸ On the other hand, where the alien, in good faith, "reports to work and accepts the employment, he may still quit after a while because he does not like the work or because he has received a better offer elsewhere".⁹

As yet unresolved is the question whether an immigrant who was admitted with a defect in his immigration visa is authorized to work. The defect may be discovered years later and he may be subject to deportation proceedings on the grounds that he was inadmissible at the time of entry.¹⁰ If the employment is deemed unauthorized despite admission with an immigrant visa, the alien will be ineligible for relief from deportation through adjustment of status. Such a construction of the statute would appear to be clearly inconsistent with the intent of the Congress. When Section 245 (c) was enacted into law to preclude adjustment of status for certain aliens who accept employment, it was designed to deter nonimmigrants from violating the conditions of their admission.¹¹ Moreover, it has always been recognized that admission with an immigrant visa confers work authorization and is inherent in the privilege of residing permanently in the United States.

Nonimmigrants

In the case of an alien admitted temporarily in one of the 12 nonimmigrant classifications,¹² work authorization may be inherent in the alien's classification, or he may have a classification in which he can request and receive employment permission from the INS. Otherwise, a nonimmigrant is not authorized to work.¹³

⁷ U.S.C. 1101 (a) (20).

⁸ *Matter of Fotopoulos*, 13 I&N Dec. 847 (BIA, 1972).

⁹ *Matter of Cardoso*, 13 I&N Dec. 228 (BIA, 1969).

¹⁰ 8 U.S.C. 1251 (a) (1).

¹¹ House Report No. 94—1553. Page 12.

¹² 8 U.S.C. 1101 (a) (15).

¹³ 8 CFR 214.1 (c).

*EMPLOYMENT AUTHORIZATION BASED ON
NONIMMIGRANT CLASSIFICATION*

International Organization Aliens

A—1, A—2 and A—3 are the visa symbols for foreign government officials such as ambassadors, ministers, consuls and their servants and the immediate families of these persons.¹⁴

G—1, G—2, G—3, G—4 and G—5 are the visa symbols for representatives to, and employees of, designated international organizations such as the United Nations, Asian Development Bank, etc. The servants, as well as the immediate family of the principal, are also assigned a “G” classification.¹⁵

The principal alien is expected to work in the capacity in which he is employed by his foreign government, or by the international organization, and the servant is expected to serve the principal.

The family members can be authorized to work only if they change to an immigrant classification or to another nonimmigrant classification in which employment is permitted. However, if a family member works while in A—1, A—2 or A—3 status, the Service is not in a position to consider the work as a violation if the State Department continues to accept the alien as having official status. If the State Department advises the Service that the alien has lost official status for any reason, including acceptance of unauthorized employment, the alien may be subject to deportation proceedings.¹⁶

However, in some cases, employment of members of the principal's family may be permitted without loss of nonimmigrant status. If a family member wishes to inquire regarding permission to engage in gainful private employment in the U.S. while in official status, he should request his embassy or international organization to communicate with the Visa Office, Department of State, concerning the matter.¹⁷

G—4 Dependents

Under a recent INS regulation, the general rule was changed for G—4 dependents.¹⁸ Work permission now can be granted to the dependent G—4 spouse, son or daughter of a G—4 employee of an international organization. The son or daughter must be an unmarried dependent and must be residing habitually with the employee.

¹⁴ 8 U.S.C. 1101 (a) (15) (A). 22 CFR 41.12 lists all nonimmigrant visa symbols.

¹⁵ 8 U.S.C. 1101 (a) (15) (G).

¹⁶ O.I. 214.2 (a) and (g). O.I. means INS Operations Instructions.

¹⁷ *Id.*

¹⁸ 8 CFR 214.2 (g) (2) 43 FR 33229, July 31, 1978.

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Application for work permission by a G—4 dependent is submitted on Form I—566 to the Visa Office of the State Department in Washington, D.C. If the principle G—4 alien is employed by the United Nations, the application is submitted to the United Nations in New York City. Two supporting documents must be attached to the application: 1) a certification by the international organization that the applicant is the unmarried dependent son or daughter of an employee of the organization; and 2) a statement from the prospective employer giving the job, title, duties, salary and verification and the applicant qualifies for the position.

If a favorable recommendation is made by the Visa Office or the U.S. Mission to the U.N., the application may be approved by the appropriate INS district director. The District Director, Washington, D.C., is the approving official for other than United Nations family members. For U.N. cases, the approving official is the District Director, New York City.

The recommending and approving official must be satisfied that the principal alien and the applicant are in lawful status; that the proposed employment is not in a job for which there is an oversupply of qualified U.S. workers; and that the employment would not be contrary to U.S. interests.

There is an oversupply of U.S. workers if the occupation is listed on Labor Department Schedule B (20 CFR 656) or if the Labor Department otherwise determines that there is an oversupply in the area of proposed employment. However, a full-time student is not subject to this restriction. Such a student can be granted work permission regardless of the labor supply situation if the employment is part-time, not exceeding twenty hours per week, or not exceeding twelve weeks at a time during school holiday periods. In addition, an alien granted full-time work permission in a Schedule B occupation before August 30, 1978, may continue in such occupation for two years from that date.

Employment may be considered contrary to U.S. interests if the applicant has a criminal record, violated the immigration laws, worked illegally or is unable to show that he paid income taxes from previous U.S. employment. However, the illegal employment provision will not be held against an alien working without permission on August 30, 1978, if the alien applied for work permission within ninety days of that date. An applicant is eligible for work permission if the principal alien will be stationed in the U.S. six months or less.

Work permission may be granted in increments of not more than two years each. The applicant will be informed on the decision by letter. If the application is approved, the Internal Revenue Service and the Department of Labor will be informed.

If the application is denied, no appeal is permitted. However, a motion for reconsideration may be submitted.

A—1 and A—2 Dependents

A regulation similar to the one in effect for G—4 dependents has been proposed for dependents of A—1 and A—2 aliens. However, approval of the application is contingent on the alien's government permitting similar employment opportunities by spouses and unmarried dependent sons and daughters of U.S. diplomatic and consular officials and employees of similar rank stationed in the alien's country, 44 FR 5669, January 29, 1979. There is no proposal for such employment permission for dependents of representatives to international organizations.

Crewmen

A crewman is an alien serving in good faith in any capacity required for normal operation and service on board a vessel or aircraft, who intends to land temporarily and solely in pursuit of his calling as a crewman and intends to depart from the U.S.¹⁹ A crewman can work on his vessel in U.S. port so long as the work has a direct relationship to the normal operation of the vessel. For example, a crewman may load ship's stores, but not cargo.

D—1 classification is for a crewman who must depart on the same vessel. D—2 is for a crewman whose discharge has been authorized by INS.

Temporary Employees and Trainees

There are a few categories of "H" aliens.²⁰ H—1 is for persons of distinguished merit and ability coming to the United States temporarily to perform services of an exceptional nature requiring such distinguished merit and ability.

H—2 is for other workers coming to the United States temporarily to perform temporary services in occupations in which there is no shortage of American workers.

The H—3 classification is for temporary trainees.

The H—4 classification is for the spouses and children who accompany or follow to join the worker or trainee. H—4 aliens are essentially visitors for pleasure assigned a nonimmigrant classification, similar to that of the principal for ready identification and to enable them to obtain admission and extension of stay for the same period as the principal. H—4 aliens are

¹⁹ 8 U.S.C. 1101 (a) (15) (D); 8 CFR 252.

²⁰ 8 U.S.C. 1101 (a) (15) (H); 8 CFR 214.2 (h).

not allowed to work. If they engage in employment, they violate status and are subject to deportation.

A visa may not be issued to an "H" alien unless a petition on Form I-129B has been approved by the Service. The petition if filed, together with a \$10.00 fee, with the District Director having jurisdiction over the place where the services will be performed or where the training will be received. If the services will be performed in more than one place, the petition may be filed with the District Director having jurisdiction over any of those places. One petition may cover any group of aliens who will be performing the same type of services or who will be receiving the same consulate, and will be working or training in the same immigration district.

The only "H" alien for whom a labor certification must be requested is the H-2 alien. The certification must be requested in the case of the H-2 alien because the statute provides that H-2 classification can be accorded only if unemployed persons capable of performing the work involved cannot be found in this country. Also, in the case of the H-2 alien, the work itself must be of a temporary nature.

Before April 7, 1970, the law required that the work performed by an H-1 alien must also be temporary in nature. However, the H-1 provision was amended by the Act of April 7, 1970, P.L. 91-225, so that the temporariness of the work is not relevant. All "H" aliens, however, must intend to come for a temporary period.

Admission of foreign medical graduates is severely restricted. H-1 classification is available only if the foreign medical graduate is coming primarily to engage in research or teaching for a non-profit organization. Patient care incidental to the teaching of research is permissible.²¹ H-2 and H-3 classifications are available to a foreign medical graduate. The restrictions on the three H classes apply to a graduate of any medical school, including a school in the U.S. or Canada, but not a graduate of national or international renown. If an alien in the United States desires to perform temporary services or training for another petitioner, a new petition on Form I-129B must be submitted.

Special mention should be made of petitions for entertainers. Entertainers are frequently brought to the United States to perform in different places. The agent who files the petition for the entertainer may specify in the petition all of the places where the entertainer will perform. Upon approval of the petition, the services of the entertainer are restricted to the activity, area and employer specified in the approved petition. Any engagement not specified in that petition requires a new petition. Also a new petition is required if the entertainer's services are engaged by a new employer or by a

²¹ Act of October 12, 1976; 90 Stat. 2301.

new agent. In these days of charity shows and talk shows, there is also a special rule for those situations. A new petition will not be required for the appearance if an alien performs on a *bona fide* charity show without compensation if he is already in the United States under an approved petition. Also, a petition is not required for an appearance, interview or demonstration without remuneration by any nonimmigrant who is not an entertainer by occupation.

In the event of a labor dispute involving a strike or other work stoppage in an "H" alien's occupation at his place of employment, work permission is automatically suspended.

International Company Transferees

The L—1 classification is accorded to an international intra-company transferee.²² The L—2 classification is accorded to the principal's spouse and children accompanying or following to join him. Before a Consul may issue an L — 1 visa, a petition in behalf of the alien must have been approved by the Service. The L—1 alien is expected to engage in employment as the visa was issued on the basis that he was to be employed in a managerial, executive or specialized knowledge capacity. However, as in the cases of H—4 aliens, neither the spouse nor the children of the L—1 alien may accept employment in an L—2 classification.

Treaty Traders and Treaty Investors

E—1 classification is for a treaty trader who is defined as an alien coming to the United States under a treaty between the U.S. and the country of the alien's nationality solely to carry on substantial trade principally between the U.S. and the Treaty country.²³

E—2 is a treaty investor who is coming to the United States under a treaty between the U.S. and the country of the alien's nationality solely to develop and direct the operation of an enterprise in which he has invested, or is actively in the process of investing, substantial capital.²⁴

The spouse and children of the E—1 alien are also classified E—1. Spouse and children of the E—2 alien are classified E—2.

A treaty trader or investor classification may be accorded to an employee of a treaty person or organization if the employee is engaged in executive or supervisory duties or has special qualifications. The principal alien is authorized to work by virtue of his classification. However, the INS does

²² 8 U.S.C. 1101 (a) (15) (L); 8 C.F.R. 214.2 (1).

²³ 8 U.S.C. 1101 (a) (15) (E); 8 C.F.R. 214.2 (e).

²⁴ *Id.*

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not consider that the family member has violated status by engaging in employment and will not require the family member's departure if the principal alien maintains E—1 or E—2 status.²⁵

Information Media Representatives

Representatives of foreign press, radio and TV are classified as "I" aliens.²⁶ Their spouses and children are accorded the same classification symbol. The principals are expected to work in the capacity in which they have been assigned to the United States. As in the case of dependents of treaty aliens, INS does not consider that the family members have violated status by engaging in employment and will not require them to depart while the principal maintains his status.²⁷

Visitors for Business

B—1 is the temporary visitor for business.²⁸ The alien can do certain kinds of work that is considered to come within the definition of business. Examples are: 1) take orders for goods manufactured abroad; 2) negotiate contracts; 3) consult business associates; 4) perform H—1 services, other than as an entertainer, if the alien qualifies for H—1, provided he will receive no salary or pay from a U.S. source (expense allowance permitted); 5) obtain training for which he could be classified as H—3, provided the alien continues to be employed abroad, continues to receive his salary from abroad and is not paid a U.S. salary (expense allowance permitted); 6) perform personal services if the alien is a servant accompanying or following to join a U.S. citizen who lives abroad permanently, provided the alien has been employed as a servant by the U.S. citizen abroad and the U.S. citizen is visiting the U.S. temporarily; and 7) compete for prize money (not salary) as a professional athlete.

NONIMMIGRANTS WHO CAN REQUEST WORK PERMISSION

Students

F—1 classification is for the nonimmigrant student coming to the United States to take a full course of study at a school approved by the Service.²⁹ F—2 classification is accorded to the spouse and children of the student who

²⁵ O.I. 214.2 (e).

²⁶ 8 U.S.C. 1101 (a) (15) (I); 8 CFR 214.2 (i).

²⁷ O.I. 214.2 (i).

²⁸ 18 U.S.C. 1101 (a) (15) (B); 8 CFR 214.2 (b).

²⁹ 8 U.S.C. 1101 (a) (15) (F); 8 CFR 214.2 (f).

accompany or follow to join him. The dependents are not permitted to work.

An applicant for a student visa must establish that he is financially able to pay the cost of his studies and stay in the United States. The wife and children are not authorized to engage in any employment. The student is permitted to accept on-campus employment if a U.S. resident will not be displaced. Authorization from the Service to accept such employment is not required. For off-campus employment, an F — 1 student requires permission.

There are two off-campus situations — economic necessity and practical training. Permission to engage in employment because of economic necessity or for practical training may be granted only by the Service.

Economic necessity for part-time employment may be authorized upon showing that there has been a change in the financial situation of the student due to unforeseen circumstances. The application for permission to accept such employment is made on Form I — 538. The application must be endorsed by a school official who certifies the student is taking a full course of study and that part-time employment will not interfere with the student's ability to carry successfully a full course of study. If the application is granted, the student may engage in part-time employment not to exceed 20 hours per week while school is in session and without such limit during vacation periods. Approval of employment on the grounds of economic necessity is valid for the period of the student's authorized stay.

Practical training employment permission is also requested on Form I — 538. An authorized school official must certify that the proposed employment is recommended for the practical training of the student in his field of study and that it is believed the training will not be available in the student's country. Practical training may be authorized in increments of six months each, not to exceed twelve months in the aggregate. Under a more restrictive rule for vocational, business and language schools, only three months practical training may be authorized for each twelve months of attendance at such schools.

Any permission granted a student to engage in employment is automatically suspended while a strike or other labor dispute involving a work stoppage or layoff is in progress in his occupation at the place of employment.

Exchange Aliens

J—1 classification is accorded to the participant in a designated exchange program ³⁰ and the J—2 classification is accorded to the principal's spouse and children accompanying or following to join him. The J—1 alien can

³⁰ 8 U.S.C. 1101 (a) (15) (J); 8 CFR 214.2 (j); 22 CFR 63.

work only if permissible under the terms of the approved program.

J—1 students may be permitted by the sponsor to accept summer employment (even if not specifically provided for in the program) and practical training. Permission to work rests with the sponsor who is responsible for assuring compliance with the terms of the approved exchange program. Requests for work permission in the case of J—1 aliens are not submitted to INS. A school having an exchange program may authorize part-time employment during the school year for a J—1 alien student if employment is required because of urgent financial need which has arisen since the time of visa issuance and if the employment will not interfere with participating in a full course of study. The part-time employment must have the written approval of the responsible officer of the exchange program. "Part-time" is not defined for exchange students.

The J—2 spouse and children may be granted permission by INS to accept employment in the U.S. only if such employment is for the support (including customary recreational and cultural activities and related travel) of the spouse and children. Employment permission may not be granted for the support of the principal alien. The application is made to the District Director where the alien is residing temporarily and it need not be made in writing.³¹

Foreign medical graduates coming to the United States under an exchange program for graduate medical education or training are subject to special restrictions.³² An accredited medical or other health professional school must agree in writing to provide or assume responsibility for the alien's education or training. Any participating affiliated hospital must join in the agreement. The school must be satisfied that the alien is a graduate of a U.S. or Canadian medical school or has passed Parts I and II of the National Board Examination or its designated equivalent,³³ is competent in oral and written English, is adaptable to U.S. culture and has adequate prior education. Practice of medicine under State license and specialty board certification, as of a date prior to January 1, 1977, are deemed equivalent to passing the examination. The alien must make a commitment to return to his home country and the Government of his country must give written assurance that there is a need in that country for the skills the alien will acquire. The alien's stay is limited to two years. One extension for an additional year may be granted at the written request of the Government of his country.

³¹ 8 CFR 214.2 (j).

³² Act of October 12, 1976, 90 Stat. 2301, and Act of August 1, 1977, 91 Stat. 394.

³³ The designated equivalent is the Visa Qualifying Examination (VOE). The VOE will be held annually in the U.S. and abroad. For information contact Educational Commission for Foreign Medical Graduates, 3624 Market St., Philadelphia, Pa. 19104; Tel (215) 386—5900. Cable EDCOUNCIL, Philadelphia.

FIANCE[E]S OF U.S. CITIZENS

A/K — 1 classification is accorded to a fiancé(e) who is the beneficiary of an approved visa petition filed by a U.S. citizen.³⁴ Since a fiancé(e) is actually an intending immigrant who is permitted to enter temporarily for the purpose of marriage which would qualify the alien for permanent residence, it is the Service view that acceptance of employment by a K — 1 alien prior to becoming a lawful permanent resident is permitted. Similarly, the children accompanying, or following to join, the K — 1 alien, who are accorded K — 2 classification, are also permitted to work.

NONIMMIGRANTS FOR WHOM EMPLOYMENT IS PROHIBITED

A nonimmigrant who is in the United States in the status of a visitor for pleasure (B—2), or as an alien in transit (C—1), may not engage in employment.³⁵ F — 2 dependents of students,³⁶ H — 4 dependents of temporary workers and trainees³⁷ and L — 2 dependents of international company transferees³⁸ may not accept employment.

EMPLOYMENT WHILE AN APPLICATION IS PENDING

An applicant for adjustment of status to permanent resident may request that his Form I—94 (Annual-Departure Record) be stamped "Employment Authorized".³⁹ The application must be properly executed, the filing fee must be attached and the alien must be *prima facie* eligible for adjustment.

Although acceptance of employment after proper filing does not disqualify an alien for adjustment, the employment endorsement may facilitate obtaining a job and a social security number. The endorsement also prevents any question about whether any subsequent employment is authorized.

"An H—1 alien whose authorized stay has expired, but who has filed a timely application for an extension of the H—1 stay with the same employer, may continue to perform previously authorized work for that employer while his application for extension is pending and such employment will not be considered as unauthorized."⁴⁰ Presumably, the H — 1 alien was cited as an example to illustrate the point. Thus the policy would also apply in H — 2,

³⁴ 8 U.S.C. 1101 (a) (15) (K); 8 CFR 214.2 (k); O.I. 214.2 (k).

³⁵ 8 CFR 214.1 (c).

³⁶ AINS Form M — 201, par. 4.

³⁷ 8 CFR 214.2 (h) (1).

³⁸ 8 CFR 214.2 (l) (1).

³⁹ O.I. 245.9; INS Telegram of Sept. 22, 1978 (C.O. 245—P).
⁴⁰ 8 CFR 56873, December 30, 1976.



H—3 and L—1 cases and in any other cases where an alien continues previously authorized work while his extension application is pending. In *Matter of Dacanay*, I.D. 2590 (BIA, 1977), the policy was expanded to include an extension application by an “H” alien for different employment, if the “H” petition is approved. The same principal would appear equally pertinent to a timely application for change in nonimmigrant classification (e.g. F—1 student to H—1 temporary worker) if the application is approved.

REFUGEES

Aliens who have entered the United States as conditional entrants, or who have been paroled as refugees, are automatically granted work permission at time of arrival by endorsement on their Form I—94.⁴¹

An alien in the United States who is granted asylum is granted work permission on request.

UNDOCUMENTED ALIENS

Form I—94 may be endorsed “Employment Authorized” upon request, when voluntary departure is granted to:

- 1) an admissible alien who is actively seeking an immigrant visa at a U.S. Consulate, if an immigrant visa is available to him within 60 days;⁴²
- 2) an alien for whom a preference petition was approved as a member of the professions or as a person of exceptional ability in the sciences or arts, if his priority date is before August 9, 1978;⁴³
- 3) a Western hemisphere native who was in the United States on December 31, 1976, if on that date he was and continues to be the adult unmarried son or daughter of a U.S. citizen, or the spouse of an unmarried son or daughter of a lawful permanent resident alien;⁴⁴
- 4) an alien in whose case there are compelling factors;⁴⁵
- 5) a Western hemisphere native who is registered on an immigrant visa waiting list as of a date prior to January 1, 1977, and who last entered the United States prior to March 11, 1977;⁴⁶

⁴¹ 8 CFR 242.5 (a) (2) and (3); 43 FR 29528, July 10, 1978; O.I. 235.11 (b).

⁴² 8 CFR 242.5 (a) (2) and (3); 43 FR 29828, July 10, 1978.

⁴³ *Id.*

⁴⁴ O.I. 242.10 (a) and (b).

⁴⁵ 8 CFR 242.5 (a) (2) and (3); 43 FR 29528, July 10, 1978.

⁴⁶ O.I. 242.5.

- 6) a deportable alien in whose case deportation will not, or cannot, be enforced, such as an alien who was granted suspension of deportation under Section 244 of the Immigration and Nationality Act, 8 U.S.C. 1254,⁴⁷ or withholding of deportation under Section 243 (h), 8 U.S.C. 1253 (h).⁴⁸

Despite the absence of express statutory authority to grant work permission, INS has found that such benevolent authority is implied in the broad power granted by the Congress to administer the immigration laws.

⁴⁷ O.I. 244.3

⁴⁸ O.I. 243.5.

The spillover of US immigration policy on citizens and permanent residents of Mexican descent: how internalizing “illegality” impacts public health in the borderlands

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Background: The militarization of the US–Mexico border region exacerbates the process of “Othering” Latino immigrants – as “illegal aliens.” The internalization of “illegality” can manifest as a sense of “undeservingness” of legal protection in the population and be detrimental on a biopsychological level.

Objective: We explore the impacts of “illegality” among a population of US citizen and permanent resident farmworkers of Mexican descent. We do so through the lens of immigration enforcement-related stress and the ability to file formal complaints of discrimination and mistreatment perpetrated by local immigration enforcement agents, including local police authorized to enforce immigration law.

Methods: Drawing from cross-sectional data gathered through the National Institute of Occupation Safety and Health, “Challenges to Farmworker Health at the US–Mexico Border” study, a community-based participatory research project conducted at the Arizona–Sonora border, we compared Arizona resident farmworkers ($N = 349$) to Mexico-based farmworkers ($N = 140$) or Transnational farmworkers who cross the US–Mexico border daily or weekly to work in US agriculture.

Results: Both samples of farmworkers experience significant levels of stress in anticipation of encounters with immigration officials. Fear was cited as the greatest factor preventing individuals from reporting immigration abuses. The groups varied slightly in the relative weight attributed to different types of fear.

Conclusion: The militarization of the border has consequences for individuals who are not the target of immigration enforcement. These spillover effects cause harm to farmworkers in multiple ways. Multi-institutional and community-centered systems for reporting immigration-related victimization is required. Applied participatory research with affected communities can mitigate the public health effects of state-sponsored immigration discrimination and violence among US citizen and permanent residents.

Keywords: immigration policy, mistreatment, border health, stress, psychological, prevention and control

Introduction

US immigration enforcement efforts grew considerably over the last few decades, with a nearly 15-fold increase in funding from 1986 to 2012 channeled into the nation's principle enforcement agencies. Customs and border protection (CBP) and immigration and customs enforcement (ICE), whose FY2012 budget totaled 17.9 billion dollars (1), contribute to the militarization of the US–Mexico border. Militarization is defined as the saturation of and pervasive encounters with immigration officials including local police enacting immigration and border enforcement policy with military style tactics and weapons (2). These enforcement measures are applied at ports of entry (POE), in the deserts, rivers, and mountains between POEs, and, increasingly, in public spaces, workplaces, and residential areas in the border region and elsewhere (3, 4).

The territorial boundary of the sovereign state has always been fundamental to the creation of social hierarchies. The intersections of ethnicity, race, class, and gender relegate people to social categories some of whose members have rights of membership, including US citizens and permanent residents and “Others” who do not possess such rights, such as unauthorized immigrants or “illegal aliens” (5, 6). In the US–Mexico border region, the process of “Othering” categorizes Latino immigrants and migrants, including their non-immigrant co-ethnics as “illegal aliens” (5, 7, 8). The symbolic violence (9, 10) or the implicit way in which cultural and social domination is maintained on an unconscious level through discriminatory practices generated by sexism, racism, and classism naturalizes the notion of “illegality.” Through this process, certain groups are categorized as non-rights-bearing individuals (11, 12). The erasure of legal personhood manifests as the inability to obtain work authorization and restricted physical and social mobility, which reinforces immigrants’ forced invisibility, exclusion, and sense of vulnerability to being deported (12, 13). The militarization of the border contributes to the construction of such notions of “illegality” of Latino populations by inscribing difference “upon Mexican migrants” themselves, as their distinctive spatialized (and racialized) status as “illegal aliens,” as Mexicans “out of place” (5).

In the context of the “War on Terror,” the regulatory policies associated with enforcement conflate migrants with terrorists, drug smugglers, and human traffickers who represent a threat to national security (14–16). The criminalization of immigration law erodes the legal protections that once covered non-citizens, subjecting ever-growing numbers to deportation (17–19). Further, there is growing evidence that border enforcement leads to maltreatment of persons that violates their civil and human rights through the excessive use of force and verbal and physical abuse (4, 14, 20).

Cumulative exposure to institutional arrangements, ethno-racial hierarchies, and citizen/non-citizen distinctions that systematically marginalize individuals create disproportionate levels of structural vulnerability (21). Defined as “a positionality that imposes physical and emotional suffering on specific population groups and individuals in patterned ways,” structural vulnerability reproduces inequality by casting certain groups as less worthy of material and social protection (22). The subordinated status created through “illegality” may be internalized by Latino immigrant and migrants and detrimental on a biopsychological level (23–26). Farmworkers especially experience high levels of structural vulnerability due to

their subordinate status in the social hierarchy (27). As a result, farmworkers in general experience greater prevalence of chronic disease risk factors and poorer mental health outcomes compared to non-farmworker US Hispanic populations (28–31).

This study aimed to explore ways in which a relatively large sample of immigrant and migrant farmworkers of Mexican descent who are US citizen and permanent residents and live and work in the Arizona–Sonora, Mexico border region experience “illegality” and the impact it has on their health. We hypothesized that transnational border residents, or those farmworkers who live permanently in Mexico and cross the border to work in US agriculture would be more likely to experience an internalized sense of “illegality” due to their residence outside the US and the need to cross the border for employment. Such perceptions of “illegality” could come in form of feeling as though they “belonged less” to the nation compared to those immigrant and migrant farmworkers who live in Arizona because of their residence outside the country. We contend that the need to cross the border daily and interact frequently with immigration enforcement officials at points of entry would bolster transnational farmworkers sense of being “Other” and negatively affect their well-being.

Materials and Methods

The National Institute of Occupation Safety and Health, “challenges to farmworker health (CFH) at the US–Mexico Border” is a community-based participatory research (CBPR) project conducted by the University of Arizona, Zuckerman College of Public Health, and the Binational Migration Institute located in the Department of Mexican American Studies in partnership with *Campesinos Sin Fronteras*, a community-based agency serving regional border residents and *Derechos Humanos*, a human rights organization advocating on behalf of Arizona immigrant families (32). A detailed discussion of this partnership is reported elsewhere (4, 33).

Challenges to farmworker health is a cross-sectional, population-based survey using a randomized proportionately representative household sample ($N = 299$) and a convenience sample ($N = 200$) of men and women of Mexican descent aged 20 years and older who were farmworkers during the 12 months preceding the survey. To obtain the household sample, researchers randomly selected census blocks for three adjacent Arizona-border communities; all were low income and typically medically under-served communities in which agricultural workers were the dominant residents. A modified survey was then utilized as an opportunistic survey conducted at specific pick-up points for farmworkers with the same enrollment restrictions mentioned, who may have been missed in the primary survey. This survey targeted those farmworkers not living in local household but rather commute from a distance, live in their automobiles, live across the border (including US residents), or live in “colonias” not yet mapped to the existing city and county neighborhood plots. For the purposes of this paper, the household and opportunistic samples were merged and stratified by transnational farmworkers who did not live in the US but crossed the Mexico border daily or weekly to work in US agriculture ($N = 140$) and those farmworkers whose primary residence was in Arizona ($N = 349$) referred to herein as Arizona-based farmworkers.

Essential to this study, were community health workers or *Promotoras*, who shared cultural and linguistic history of participants, contributed to survey modification and provided insight into cultural and regional relevance of interview questions. *Promotoras* were trained by UA research staff to conduct interviews and collected the majority of the survey data over the summer months of 2006–2007. *Promotoras* contacted a total of 323 adults who met study criteria, of which 299 agreed to participate, resulting in a 93% response rate. We believe CBPR, which equitably engaged affected community members throughout the research process, and the full engagement of *Promotoras* as trusted members of the community, increased the likelihood of participation and quality of the self-reported data. A detailed description of the CFH study sampling frame and partner agency relationships in CBPR is found elsewhere (33).

To examine the existing level of structural vulnerability within the population, descriptive statistics were calculated for variables shared by both the household and the abbreviated opportunistic survey instruments, these include selected demographics (age, years working in US agriculture), immigration status, access to health care coverage, and immigration encounter and immigration-related stress. Drawing from survey items from the Immigration and Border Interaction Survey conducted over a 15-year period in one Southern Arizona-border community (34, 35), respondents were also asked about their experiences with immigration officials and the perceptions of how immigration officials differentiate between US citizens and individuals unauthorized to be in the US. Stress was measured with items from the Border Community and Immigration Stress Scale (BCISS), a 21-item scale that considers the presence and intensity of culturally and contextually relevant stressors (33). BCISS stress domains include migration, acculturation, and barriers to health care, discrimination, economic strains, and family separation. For this study, we explored four border community and immigration-related stressors, including stress caused by encounters with immigration officials, local police, and the presence of military in the region. The BCISS is a 5-point Likert scale, which measures the level or intensity of the stress experienced for each given domain. For the domains of interest, we created a dichotomous variable to categorize respondents by self-reported feelings of very or extreme stress and those that experienced low to moderate stress. Data reported here illustrate

those respondents who self-reported very or extreme stress, which is narrated in text as intense stress. Full description of the 21-BCISS can be found elsewhere (33).

Most importantly, we wanted to explore how such cumulative immigration-related surveillance, encounters and stress might contribute to a sense of undeservingness of social protection from immigration-related mistreatment or discrimination among study participants. To do so, we analyzed Arizona and transnational participants' short narratives of reasons to file and not to file a formal complaint with immigration authorities regarding an immigration related mistreatment episode.

Analysis

We explored differences between the two samples through Fisher's Exact for demographic and experiences with immigration officials. All statistical analyses were performed using STATA 10.0 software. We used grounded theory to code themes that emerged from the short narratives and stratified that analysis by Arizona and transnational participants (36). The UA Office of Human Subject Protection approved this research.

Results

There were no significant differences between the two samples in terms of immigration status as approximately 90% of all participants were self-identified US citizens or permanent residents. Only one participant self-identified with an undocumented immigration status and this participant was in the Arizona-border sample (Table 1). The remaining 8% of participants had a temporary residency status, meaning that they were in the process of permanent residency status or had a border-crossing card, which allowed them to cross into the US and work in US agriculture. Transnational farmworkers were significantly more likely to be male, older and employed for more years in US agriculture compared to Arizona-based border farmworkers.

Experiences with US Immigration Officials, Including Local Police

Although the Arizona-border sample was significantly more likely to see immigration officials in their neighborhoods, both study

TABLE 1 | Demographic characteristics of Arizona-border and transnational farmworkers.

	Total	Arizona border	Transnational	<i>p</i> -Value
	% (n/489)	% (n/349)	% (n/140)	
Gender				
Female	40 (194/489)	47 (166/349)	20 (28/140)	0.000
Male	60 (295/489)	52 (183/349)	80 (112/140)	
Age, mean year (SD)	46 (11.2)	45 (10.8)	49 (11.0)	0.001
Immigration status				
US born or naturalized citizen	14 (66/484)	15 (52/344)	10 (14/140)	0.437
Permanent resident	80 (389/484)	79 (272/344)	84 (117/140)	
Temporary	6 (28/484)	6 (19/344)	6 (9/140)	
Undocumented	0.2 (1/484)	0.3 (1/344)	0 (0/140)	
Years in US agriculture, mean (SD)	19 (12.2)	19 (12.2)	21 (12.1)	0.006
Current health care coverage	57 (276/486)	55 (192/347)	60 (84/139)	0.313
Lacked coverage in last year	45 (151/332)	41 (92/225)	55 (59/107)	0.018

Boldface *p* values indicate *p* < 0.05 from Fisher exact tests. Ns differ according to available data.

samples were as likely to observe immigration officials at the worksite, corner store, and the local supermarket. Arizona border respondents were significantly more likely to believe immigration officials, including local police, used individual characteristics of clothing and the type of vehicle to identify undocumented persons (Table 2). Although not statistically significant, Arizona border residents were more likely to be detained and questioned by local police regarding their immigration status compared to the transnational participants. Among those participants who were detained by local police, local police called immigration officials and detained Arizona and transnational farmworkers at almost equal rates.

Almost all Arizona and transnational farmworkers believed negative immigration encounters should be reported. However, only about one-third of both populations reported knowing how to file a formal complaint of immigration mistreatment.

In terms of self-reported immigration-related intense stress, approximately one-third of all participants experienced intense stress due to military patrolling the border region. No <20% of all respondents experienced this same level of intense stress in anticipation of encounters with local police or encounters with immigration officials. There were no significant differences in the levels of stress produced by such encounters among the two samples.

Complaint Making Regarding Immigration Mistreatment

Farmworker short narratives illuminated several themes regarding reasons to file a complaint of mistreatment by immigration officials (Table 3). Prevention of future mistreatment accounted for 29% of all narratives. According to farmworkers, filing a complaint of

immigration-related mistreatment contributed to the prevention of mistreatment in several forms. First and foremost by filing a formal complaint one could contribute to raising awareness of immigration-related mistreatment. Complaints also served to elicit corrective action among those immigration officials who engaged in behavior beyond the scope of their mandate. More broadly, farmworkers believed formal complaints could contribute to the elimination of existing systems of discrimination.

The second major thematic category within the reasons to file a complaint of mistreatment was protection of overall well-being. Protection of well-being came in many forms including acknowledgment of civil and human rights, and avoidance of abuse. Farmworkers described in detail their inherent civil and human rights, which they believe should protect them and their community members from such mistreatment. Although far less mentioned, in some cases, farmworkers described the forms of resistance individual and community members engage in to monitor mistreatment.

When comparing the two groups, Arizona-border residents more often identified prevention of future mistreatment and human and civil rights compared to transnational participants who were more literal in their rational for complaint making who most often abuse of any kind. Both sets of participants reported formal complaint making about immigration-related mistreatment could contribute to positive changes in the larger immigration and police system.

We shift now to the reasons farmworkers would choose not to make a formal complaint of immigration-related mistreatment. Approximately 31% of the total sample stated fear as the number one reason not to file a formal complaint of mistreatment (Table 4).

TABLE 2 | Comparisons of experiences and encounters with US immigration and local police among Arizona-border and transnational farmworkers.

	Total % (n/N)	Arizona border % (n/N)	Transnational % (n/N)	p-Value
Daily immigration official sightings in community settings (non-US port entry)	84 (373/443)	86 (285/330)	24 (88/113)	0.037
Neighborhood	68 (334/489)	89 (312/349)	16 (22/140)	0.000
Worksite	59 (287/489)	58 (203/349)	60 (84/140)	0.761
Corner store	20 (98/489)	20 (71/349)	19 (27/140)	0.901
Supermarket	42 (204/489)	44 (152/349)	37 (52/140)	0.224
Public bus	14 (70/489)	15 (53/349)	12 (17/140)	0.475
Characteristics used by immigration officials to identify undocumented persons				
Clothing	78 (382/487)	82 (284/348)	71 (98/139)	0.010
Type of car	70 (338/486)	73 (252/347)	61 (86/139)	0.022
Mexican appearance	65 (317/485)	67 (234/347)	60 (83/138)	0.139
Foreign-looking	65 (318/486)	68 (235/347)	60 (83/139)	0.113
Skin color	64 (311/486)	64 (223/347)	63 (88/139)	0.835
Immigration detention experiences				
Local police questioned immigration status, last 24 months	9 (43/489)	10 (36/349)	5 (7/140)	0.076
Local police called immigration	6 (20/346)	6 (16/269)	5 (4/77)	1.0
Detained by immigration	3 (12/348)	4 (10/272)	3 (2/76)	1.0
Border community immigration stress scale (BCISS)^a				
Military patrolling the border	32 (154/484)	31 (108/348)	34 (46/136)	0.588
Encounters with local police	23 (113/487)	23 (81/348)	23 (32/487)	1.00
Encounters with immigration officials	20 (99/484)	19 (66/347)	24 (33/137)	0.214
Reporting immigration encounters				
Should report negative encounter	97 (471/482)	99 (341/346)	96 (130/136)	0.082
Knows how to report	33 (161/487)	34 (117/347)	31 (44/140)	0.667

Boldface p values indicate $p < 0.05$ from Fisher exact tests.

^aFrequency of intensely reported stressors from the border community and immigration stress scale (BCISS).

TABLE 3 | Summary of reasons to file a formal complaint of immigration-related mistreatment among Arizona and transnational farmworkers of Mexican descent.

		Illustrative quotes
	Arizona farmworkers	Transnational farmworkers
Prevention of future mistreatment		
Prevent the abuse of others	Para evitar que vuelva a pasar una injusticia/to prevent an injustice from happening again	Para que ya no sigan abusando ni maltratando las personas/so they stop mistreating the people
Receive better treatment	Para evitar las injusticias para que no les pase lo mismo/to prevent injustice from happening so it does not happen Para prevenir maltratos en el futuro/to prevent future abuse Para que no nos sigan tratando mal a las personas/so they (immigration officials) will stop mistreating people Para tener un mejor trato/to be treated better! Para ayudar a parar la discriminacion/To help stop discrimination Para que nos trate mejor y seamos escuchados/so we are treated better and they listen to us	
Raise awareness of immigration-related mistreatment	Para dar a saber las cosas que estan pasando/to make people aware of things that are occurring De esa forma daríamos a saber el maltrato que se les da a las personas/through this (formal complaint) we make known the mistreatment that they (immigration officials) enact on the people Para que se enteren los superiores de lo que esta pasando/so that the leadership or supervisors (immigration officials) know what is occurring	Para evitar las malos frutos/to eliminate the bad apples (immigration officials) Para que las autoridades mas altas se den cuenta de las injusticias que cometen/as so the upper level immigration officials understand the injustices that are being committed
Encourage corrective action	Para que un oficial abusivo sea castigado/so an abusive officer will be punished Para corregir el maltrato de los oficiales/to correct the abusive behavior of the officers No deben permitir que se maltrate a las personas/maltreatment should not permitted Para evitar las malos frutos/to remove the bad apples (immigration officials)	
Eliminate systems of discrimination	Para componer el sistema/to fix the system Para que no nos descrimenen/so they (immigration officials) will stop discriminating us Para que haiga mas democracia en este lugar/so there is more democracy in this place' Para que se acabe toda la discriminacion/to stop the discrimination Porque estan legales/because they [people being mistreated] are "legal" (authorized to be in the US)	Por injusticias por descriminacion/because of injustice and because of discrimination Si no comete uno algo malo, no tienen por que tratarnos mal/if you have not done anything wrong then they (immigration officials) have no reason to treat you badly Todas somos iguales; debemos ser tratados por igual/ we are all equal and should be treated equally
Protection and well-being		
Recognition of rights	Porque tenemos derechos si tengamos documentos o no/because we have rights, whether we have papers (US citizenship or legal permanent residency documents) or not Porque somos personas igual que ellos/because we are people just like them (immigration officials) Porque roban a la gente de sus derechos/because they (immigration officials) rob the people of their rights Tenemos los mismos derechos que un ciudadano/because we have the same rights as a US citizen Todos somos legales somos humanos con los mismos derechos/because we are all authorized to be in the US with same rights (as any US citizen) Porque nadie tiene derecho de maltratarte/because no one has the right to mistreat you	Tenemos derechos y hay que reclamarlos/we have rights and we must reclaim these rights Por el humanismo; por que no debe haber injusticias/ because of humanism, because there should not be such injustices Somos person/as y tambien tenemos derecho/we are people and we also have rights
Well-being of the individual and the collective community	Por el propio bien de uno/for ones own good	Por el bien de nosotros mismos/for the good of all of us

(continued)

TABLE 3 | Continued

	Illustrative quotes	
	Arizona farmworkers	Transnational farmworkers
Individual and community resistance	Para que nos escuchen y no se nos siga ignorando/so they (immigration authority) listen to us and stop ignoring us)	Para que sepan que la gente sabe sus derechos/so they (immigration authority) know that the people know their rights
	Para que nos respeten mas; y debemos defender nuestros derechos/so they (immigration authorities) respect us and we should defend our rights	Por que debemos quejarnos, todos somos iguales/ because we should complain, because we are all equal
	Deberiamos hablar para defender nuestros derechos; no ser atropellados/we should speak up to defend our rights, and not be overtaken	
Mistreatment and abuse	Es algo ilegal si se debe reportar/its illegal (mistreatment) and it should be reported	Abuso de autoridad/abuse of power
	Porque en ocasiones abusan de las personas y los intimidan/because on occasions immigration officials abuse the people and intimidate them	Por violencia, abusos verbales, falta de respeto, abuso fisico/because of violence, verbal abuse, lack of respect, and physical abuse

Fear came in many forms including fear of retaliation by immigration officials, fear of losing current immigration status, and fear of being deported (Table 4). Although a nuanced form of fear, other farmworkers described not filing a report because they wanted to avoid problems with officials, suggesting that by virtue of filing they may experience some form of investigation. Others expressed the sense that their complaint would not be taken seriously even if they reported it. The intensive work hours among farmworkers was also a deterrent from filing a report, as some farmworkers described not having enough time in the day to do so. This sense of not having enough time to file was often linked to the idea of wasting time in filing as if their complaint would not be acted upon.

Discussion

We show that in the border region, immigrants and migrants of Mexican descent with US permanent residence and citizenship feel vulnerable to being identified as “out of place” and, subsequently, the target of immigration enforcement. Immigration officials’ presence was pervasive and not confined to the US port of entry but was experienced by participants in public spaces, including neighborhoods, worksites, and local markets. Arizona border and transnational immigrant and migrant farmworkers experience high levels of stress associated with encounters and/or anticipated encounters with immigration officials. Furthermore, participants believed that these officials used personal characteristics to differentiate the population and identify individuals with an undocumented or “illegal” immigration status. We were unable to confirm our hypothesis, as there were only a few consistent differences between the two samples that would suggest that any one group would internalize “illegality” more or less than the other. Lack of difference between the two groups suggests that US immigration enforcement permeates the public spaces where both Arizona resident and transnational farmworkers conduct their lives constituting an imminent threat of state-sponsored violence to both of these authorized populations.

Most notable of the ways in which the two populations may internalize a sense of “illegality” or “undeservingness” for social protection from immigration-related discrimination and mistreatment is the high proportion of respondents reporting fear as the

primary reason why they themselves or others in the community may not report immigration mistreatment. Immigration enforcement in the borderlands relies heavily not only on undocumented status but also on legal status as perceived through ethno-racial profiling of subjects. In the context of militarized border enforcement and the criminalization of immigration, the distinctions between rights-bearing subjects and those without any rights are blurred. While farmworkers indicate that they know their rights to file complaints and the positive potential of doing so (Table 3), their fears indicate that they do not believe their rights can protect them within the militarized climate of the border (Table 4). Permanent residents and citizens of Mexican descent internalize their subordinated racialized status, fearing that their legal status can be easily revoked if they file complaints of maltreatment by immigration officers or local police. Deportability – an essential dimension of “illegality” – is not only implicated in creating an exploitable workforce (5) but also is a key site of the production of state power and the ability of the US to govern its citizens and permanent residents (37). The social cost of the symbolic and material fortification of the border can be measured in its effects upon farmworkers’ sense of exclusion and fear of losing “that which has been established,” that is, their basic rights as residents and citizens. This study provides further evidence of the “spillover” effects of immigration enforcement onto groups who are not the target of immigration enforcement. The resulting biopsychological harm demonstrates how the current enforcement regime is detrimental to society (38).

Public Health Policy Implications and Future Research

As border security remains compulsory to the US immigration reform policy debate, and persuasive in public discourse, our study confirms that immigration policy and specifically those policies aimed at border enforcement is a structural determinant of health. Defined by the WHO Commission on Social Determinants of Health, structural determinants are those distal policy and systems levels phenomena that directly and indirectly affect the public’s health (39, 40). Such structural determinants require large-scale political and social change. Institutional practices of discrimination within US immigration and border enforcement political systems

TABLE 4 | Summary of reasons not to file a formal complaint of immigration-related mistreatment among Arizona and transnational farmworkers of Mexican descent.

	Illustrative quotes	
	Arizona Farmworkers	Transnational Farmworkers
General fear		
Fear of retaliation	Por miedo a que tomen la queja en nuestra contra/for fear they (immigration officials) will use the complaint against us	Por miedo a que haiga represarios/for fear of retaliation
	Por miedo a en contrarse nuevamente con la persona que lo maltrato/for fear of encountering the person (immigration officer) who mistreated you	Por miedo a tener otro problema mas uno nunca sabe si al hacer una queja como te vaya/for fear of having one more problem because you do not know how making a complaint with effect you later
	Porque las personas tienen miedo a lo que pueda pasar despues no conocen las leyes/because the people are afraid of what could happen after (they make a complaint) because they do not know the law	Por miedo despues vayan a decir el nombre de quien los dijo relalaton against person on his family/out of fear they (immigration officials) may say the name of the person who complained and they will retaliate against your family
	Por precaucion a lo que pueden hacer en contra de la familia (represalias)/out of precaution because of what could potentially happen to the family (retaliation)	
Fear of losing current immigration status	Por miedo a que les quiten los papeles/for fear they (immigration) will take away legal documents	Por miedo a perder su estatus migratorio/out of fear that you might lose your immigration status
	Por miedo a perder papeles o a ser ignorados/for fear of losing papers (legal immigration papers) or be ignored	
Fear of being deported	Por miedo a que los deporten/for fear of being deported	Por miedo a una deportacion/fear of being deported
	Por miedo, a que los detengan o los deporten/for fear that you will be detained and deported	
	Por miedo de que los manden para Mexico o que no los tomen en cuanta/for fear they will send you to Mexico or they will not take your complaint seriously	
Other themes		
Desire to avoid problems	Por miedo a enfrentarse a si mismo rasismo/for fear of confronting the same type of racism	Por miedo o simplemente no quiere uno meterse en problemas/for fear of simply not wanting to become involved in problems
Waste of time	El miedo a perder tiempo y papeles y dinero por dejar de trabajar/ the fear of losing time, your papers, and money because you had to leave work	Por que nunca hacen nada las autoridades/because the authorities will never do anything
	Piensen que no se les va a hacer caso... como que no vale la pena/the people think that the immigration officials are not going to do anything and it is not worth making a complaint	Por miedo a que no hagan caso o no te tomen en cuenta/the fear of no one doing anything and not taking your complaint seriously
Not enough time	Por no perder el tiempo de trabajar y las vueltas que tendrian que dares/to not loose time at work with all the paperwork you will have to do	
	Por falta de tiempo; sale uno bien cansado y pensando que va a ser ignorado si va/Due to lack of time, you leave work so tired, and think you will be ignored if you go (to make a complaint)	
Rights	Por miedo por pensar que no tiene el derecho de reclamar/the fear that one thinks they do not have the right to complain Porque las personas no se sienten con el valor de hacerlo/because people may not have the courage to make a complaint	Porque si uno no ha hecho nada incorrecto y tiene sus documentos en regla las autoridades no deben de maltratar a las personas/ because if one has not done anything wrong and you have your papers in order the authorities should not be mistreating people

have only recently emerged as determinants of health inequality (41) and few studies have linked these experiences to poor mental health outcomes (33). Broadly, restrictive or punitive immigration policies are known to limit access to health and social services (42, 43), education opportunities, and adequate employment remuneration (41, 44). In Arizona, anti-immigrant policies have been documented to limit mobility among Mexican immigrants to engage in normal activities and create fear of accessing health and social services among the population (43).

Our study provides strong evidence for the Department of Homeland Security (DHS) to enact and enforce policies that benefit public health, such as; (1) articulate and make transparent CBP training, oversight, investigation protocols, and the disciplinary actions taken against CBP officers and local police who breach their scope when enforcing immigration law (20, 45); (2) create a transparent, community-centered oversight system to document and monitor immigration-related victimization, including corruption and excessive use of force by CBP and local

police enacting immigration law; (3) develop an accountability plan by CBP and local law enforcement to systematically report and respond to community concerns of corruption and excessive use of force.

Participatory action research that fully engages affected border communities is necessary to monitor immigration-related victimization and locate the points of community and policy-level intervention to decrease victimization within border communities. The Southern Border Communities Coalition's, "Revitalize, Not Militarize" is one example of a grassroots effort in which border community members have mobilized to reframe the issue of border security as an issue of economic development. Calling for investment in all border communities to improve the quality of life of the region and trade between the US and Mexico, the campaign engages a multi media platform for border residents to share their testimonies, monitor immigration-related mistreatment, and civil and human rights abuses and advocate at state and national levels for oversight and accountability by the Department of Homeland Security and Customs and Border Patrol Agents (46). Such community-driven campaigns linked to advocacy can contribute to empowerment of affected communities and have the potential to begin to repair the detrimental effects of immigration-related structural vulnerability, which includes the internalization and normalization of such violence.

Limitations and Strengths

This study may not be generalizable to non-border communities; study participants may be more likely to be in frequent contact with immigration authorities compared to those individuals in non-border communities. These results may also underestimate the prevalence of immigration-related mistreatment and associated stress in highly militarized and policed communities, as those individuals with an undocumented immigration status may be less likely to participate. Data are self-report and the

potential for social desirability may also contribute to over or under estimation of mistreatment experiences. The CBPR approach, however, contributed to the overall strength of the study, specifically, in survey development, data collection, and the validity of the study constructs to community identified health issues. Study partners were uniquely embedded in the community, and shared many of the cultural and immigration trajectories of study participants thus giving UA researchers invaluable insight and access to a highly vulnerable population. This historical and trusting relationship between University researchers and study partner agencies, and the utilization of *Promotoras* as primary data collectors contributed to increased cultural salience of sampling procedures, survey instrument development and implementation as evidenced by a 93% response rate and limited missing data in the household survey data.

Conclusion

US citizens and permanent residents of Mexican descent living in the border region experience frequent encounters with immigration officials in public spaces at almost equal rates. These encounters are not confined to the point of entry. Anticipation of such encounters is experienced as intense stressors. Moreover, the primary reason for not reporting immigration-related abuse or mistreatment is fear and specifically the fear of losing existing immigration status. Such mistrust in the system and fearing retaliation by the state is evidence of a population who has potentially normalized mistreatment as a form of coping in the face of a broken system in which justice and retribution could only occur at a cost. Multi-institutional and community-centered systems for reporting and mitigating immigration-related victimization are required. Applied participatory research with affected communities can mitigate the public health effects of state-sponsored immigration discrimination and violence.

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DEMYSTIFYING EMPLOYMENT AUTHORIZATION AND PROSECUTORIAL DISCRETION IN IMMIGRATION CASES

SHOBA SIVAPRASAD WADHIA*

On November 20, 2014, President Barack Obama announced a series of immigration programs aimed to reform the immigration system. Deferred Action for Parents of Americans or Lawful Permanent Residents (DAPA) and extended Deferred Action for Childhood Arrivals (DACA) represent two such programs announced by the President. Both programs extend deferred action (one form of prosecutorial discretion) to qualifying individuals. Deferred action has been part of the immigration system for more than 50 years, and has been named explicitly by Congress, federal courts, and the agencies responsible for administering immigration laws. Additionally, regulations list deferred action as one basis for work authorization. The President's deferred action programs offered room for a healthy debate about immigration law and policy. The debate was intensified by a lawsuit brought by the state of Texas and 25 other states challenging the deferred action programs, and a subsequent judicial opinion enjoining these programs. Much of the tension has centered on the ability for a deferred action grantee to obtain ancillary benefits like employment authorization or lawful presence. This conflict has enabled great distortion about the limits and benefits of prosecutorial discretion in immigration law. In this Article, I seek to clarify the relationship between prosecutorial discretion and employment authorization and describe the historical precedent for allowing qualifying noncitizens to apply for work authorization based on a prosecutorial discretion grant. I also examine the policy questions that are raised by the current legal framework and policy for work authorization. My methodology for this Article is to review the primary and secondary sources of law for prosecutorial discretion and employment authorization; analyze a related data set of more than 200,000 work authorization applications processed by the United States Citizenship and Immigration Services retrieved through the Freedom of Information Act; and begin a policy discussion on the benefits of enabling prosecutorial discretion beneficiaries to be authorized to work in the United States. This Article is the first to analyze the law and policy of employment authorization and prosecutorial discretion and builds naturally from my body of work developed on the role of immigration prosecutorial discretion generally, and deferred action in particular.

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I. INTRODUCTION

This Article clarifies the relationship between prosecutorial discretion and employment authorization¹ and describes the historical precedent for allowing qualifying noncitizens to apply for work authorization based on a prosecutorial discretion grant. It also examines the policy questions that are raised by the current legal framework and procedure for work authorization. The methodology for this Article is to review the primary and secondary sources of law for prosecutorial discretion and work authorization; analyze data sets of select work authorization applications processed by U.S. Citizenship and Immigration Services

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¹ Throughout this Article, the terms “employment authorization,” “work authorization,” and “work permit” will be used interchangeably.

(“USCIS”) retrieved through the Freedom of Information Act (“FOIA”); and begin a policy discussion on the benefits of enabling prosecutorial discretion beneficiaries to be authorized to work in the United States. This Article will analyze the law and policy of work permits and prosecutorial discretion and builds naturally from a body of work developed on the role of immigration prosecutorial discretion generally, and deferred action in particular.²

The exercise of prosecutorial discretion is an important feature in the immigration system. It requires each Department of Homeland Security (“DHS”) component to make decisions about whether a person legally eligible for immigration enforcement should still be allowed to reside in the United States on a temporary basis. Prosecutorial discretion recognizes that in a universe of limited resources, an individual or group may qualify as a “low priority” for enforcement and/or bear the kinds of qualities that are unsuitable for removal.³ This discretion functions as a form of protection from removal but provides no formal legal status.⁴ There are several kinds of prosecutorial discretion in immigration law, but only a few of these forms offer the possibility of work authorization. For the vast majority of individuals living in the United States without a legal status but protected through a form of prosecutorial discretion, there is no independent basis for work.

On November 20, 2014, President Barack Obama announced a catalogue of immigration programs aimed to administratively reform the system through a combination of rulemaking and policy guidance. Three of those policy changes include Deferred Action for Parents of Americans and Lawful Permanent Residents (DAPA), an extension of Deferred Action for Childhood Arrivals (DACA), and parole for certain entrepreneurs.⁵ These programs extend deferred action or parole, which are both forms of prosecutorial discretion, to qualifying individuals, providing the possibility for work authorization. Parole has been part of the immigration system since at least the early 1900s and has been codified in the immigration statute designed by Congress and regulations.⁶ Deferred action has been part of the immigration system for more than fifty years, and is featured in the immigration statute, federal court decisions, regulations, and agency

² SHOBA SIVAPRASAD WADHIA, BEYOND DEPORTATION: THE ROLE OF PROSECUTORIAL DISCRETION IN IMMIGRATION CASES (2015); Shoba Sivaprasad Wadhia, *Immigration Remarks for the 10th Annual Wiley A. Branton Symposium*, 57 HOW. L.J. 931, 933 (2014) (discussing examples of prosecutorial discretion); Shoba Sivaprasad Wadhia, *My Great FOIA Adventure and Discoveries of Deferred Action Cases at ICE*, 27 GEO. IMMIGR. L.J. 345, 345-385 (2013); Shoba Sivaprasad Wadhia, *In Defense of DACA, Deferred Action, and the DREAM Act*, 91 TEXAS L. REV. 59 (2013); Shoba Sivaprasad Wadhia, *Sharing Secrets: Examining Deferred Action and Transparency in Immigration Law*, 10 U. N.H. L. REV. 1 (2012); Shoba Sivaprasad Wadhia, *The Role of Prosecutorial Discretion in Immigration Law*, 9 CONN. PUB. INT. L.J. 243 (2010).

³ See, e.g., Memorandum from Jeh Charles Johnson, Sec’y, U.S. Dep’t of Homeland Sec., to Thomas S. Winkowski, Acting Dir., U.S. Immigration and Customs Enforcement et al. on Policies for the Apprehension, Detention and Removal of Undocumented Immigrants (Nov. 20, 2014), http://www.dhs.gov/sites/default/files/publications/14_1120_memo_prosecutorial_discretion.pdf [hereinafter Jeh Charles Johnson Memorandum]; Memorandum from John Morton on Exercising Prosecutorial Discretion Consistent with the Civil Immigration Enforcement Priorities of the Agency for the Apprehension, Detention, and Removal of Aliens, U.S. Immigration and Customs Enforcement, 3 (June 17, 2011), <http://www.ice.gov/doclib/secure-communities/pdf/prosecutorial-discretion-memo.pdf> [hereinafter John Morton Memorandum].

⁴ See e.g., Memorandum from Karl Thompson, Principal Deputy Assistant Attorney Gen. to the Sec’y of Homeland Sec. and the Counsel to the President on The Dep’t of Homeland Sec. Authority to Prioritize Removal of Certain Aliens Unlawfully Present in the United States and to Defer Removal of Others (Nov. 19, 2014), <http://www.justice.gov/sites/default/files/olc/opinions/attachments/2014/11/20/2014-11-19-auth-prioritize-removal.pdf> [hereinafter Karl Thompson Memorandum] (“Deferred action does not confer any lawful immigration status, nor does it provide a path to obtaining permanent residence or citizenship.”); Letter from Scholars and Teachers of Immigration Law on the Executive Actions Announced by the President on November 20, 2014 (Mar. 13, 2015), https://pennstatelaw.psu.edu/_file/LAWPROFLTRHANENFINAL.pdf [hereinafter Letter from Scholars and Teachers] (describing the difference between lawful presence and lawful status in the immigration context).

⁵ U.S. Citizenship and Immigration Services, *Executive Actions on Immigration*, <http://www.uscis.gov/immigrationaction> (last visited Nov. 10, 2015).

⁶ See, e.g., 8 U.S.C. § 1182(d)(5)(A) (2013); 8 C.F.R. § 212.5 (2011).

memoranda.⁷ Qualifying grantees of deferred action or parole may qualify for additional benefits, like lawful presence and work authorization, both of which are detailed in a later section of this Article.⁸

Much of the tension around the President's deferred action programs has centered on the ability for a possibly large class of individuals to receive work authorization on the basis of a deferred action grant. The politics of deferred action and work authorization peaked when Texas and 25 other states challenged the legality of these deferred action programs.⁹ Consequently, U.S. District Court Judge Andrew Hanen for the Southern District of Texas placed the extended DACA and DAPA programs on hold.¹⁰ The deferred action programs continued to be criticized by the plaintiffs, judges, and amicus curiae briefs.¹¹ Meanwhile, the Department of Justice has maintained that eligibility to apply for work authorization flows from deferred action and pre-dates the announcements made by President Obama in 2014.¹²

II. UNDERSTANDING THE LAW AND RELATIONSHIP BETWEEN EMPLOYMENT AUTHORIZATION AND PROSECUTORIAL DISCRETION

A review of the immigration statute and regulations that govern work authorization for immigrant populations generally and prosecutorial discretion beneficiaries in particular reveals that standard administrative law principles apply: statutory delegation, deference to agency interpretations when statutes are ambiguous, notice and comment rulemaking, and so on. Congress has delegated to DHS the legal authority for issuing work authorization to noncitizens; the Immigration and Nationality Act ("INA"), as provided in Title 8 U.S.C. § 1103(a)(1) vests in the Secretary of Homeland Security the power to administer and enforce the INA and related laws,¹³ and provides DHS with the authority to establish regulations and policies to carry

⁷ 8 U.S.C. § 1103(a)(1) (2015) ("charging the Secretary of Homeland Security with the administration and enforcement of this Act and all other laws relating to the immigration and naturalization of aliens"); *Arizona v. United States*, 132 S. Ct. 2492, 2499 (2012) (stating that "[a] principal feature of the removal system is the broad discretion exercised by immigration officials . . . Federal officials, as an initial matter, must decide whether it makes sense to pursue removal at all."). See *Employment Authorization to Aliens in the United States*, 46 Fed. Reg. 25079-03, 25081 (May 5, 1981). See also 8 C.F.R. § 274a.12(c)(14) (2015) ("An alien who has been granted deferred action, an act of administrative convenience to the government which gives some cases lower priority, if the alien establishes an economic necessity for employment").

⁸ See *infra* Section II.

⁹ *United States v. Texas*, SCOTUSblog (last visited Jan. 26, 2016), <http://www.scotusblog.com/case-files/cases/united-states-v-texas/>.

¹⁰ Suzanne Gamboa, *Legal Experts: Ruling Blocking Immigration Action 'Deeply Flawed'*, NBC NEWS, Mar. 13, 2015, <http://www.nbcnews.com/news/latino/experts-texas-judges-immigration-action-ruling-deeply-flawed-n322751>.

¹¹ See Plaintiffs' Opposition to Motion for Stay Pending Appeal at 12, *Texas v. United States*, 787 F.3d 733 (5th Cir. 2015) (No. 15-40238) (internal quotations omitted), <http://images.politico.com/global/2015/03/23/txoppstayca5.pdf> (stating that "DAPA rewrites the immigration laws in multiple ways. First, it confers benefits the Executive is not authorized to confer. In particular, the Executive cannot unilaterally grant lawful presence, work permits, and a host of other benefits to 40% of the unauthorized aliens in the U.S. Such unlawful action cannot be papered over as enforcement discretion.").

¹² See, e.g., Brief for the Appellants at 46, *Texas v. United States* 787 F.3d 733 (5th Cir. 2015) (No. 15-40238) 2015 WL 1611821 at *46 (internal citations omitted) (indicating that the "district court also erred in concluding that the 2014 Guidance establishes a new right to work lawfully in the United States. Aliens accorded deferred action may be authorized to work if they apply for employment authorization, pay the necessary processing fees, and establish an economic necessity for employment. But that is the result of a 1981 regulation that makes *all* aliens accorded deferred action eligible to apply for work authorization. It is that long established regulation, not the 2014 Guidance that permits aliens accorded deferred action to apply for employment authorization. That regulation went through an extended process of notice and public comment before its adoption, in conformity with the APA.").

¹³ 8 U.S.C. § 1103(a)(1) (2015) ("charging the Secretary of Homeland Security with the administration and enforcement of this Act and all other laws relating to the immigration and naturalization of aliens").

out the provisions of the INA.¹⁴ Moreover, 8 U.S.C. § 1324a(h)(3) defines an “unauthorized alien” for employment purposes as a person who is neither an LPR nor “authorized to be ...employed by [the INA] or by the Attorney General [now Secretary of Homeland Security].¹⁵ This language, “or by the Secretary of Homeland Security,” has served as at least one statutory basis for DHS to name people who could work, and Congress has placed no cap on the number of work permits that may be issued.

A. Deferred Action

Formerly called “non-priority” status, deferred action is one form of prosecutorial discretion that was revealed publicly in the 1970s in connection with the immigration case of former Beatle, John Lennon.¹⁶ Deferred action functions as a form of non-enforcement because it defers or places a hold on the deportation of the individual.¹⁷ DHS can process and grant deferred action to an individual at any stage of the immigration process, including but not limited to the point of arrest, before detention, before a removal proceeding, and after a removal order has been entered.¹⁸ While the history is rich, deferred action remains opaque for attorneys unfamiliar with how to make a request, as there is no current form, fee, or public information about how to apply except for the DACA program.¹⁹ One internal document, obtained through FOIA in 2013, instructs that deferred action requests to USCIS be made in writing and signed by the

¹⁴ 8 U.S.C. § 1324a(h)(3) (2015).

¹⁵ For example, in a rule pertaining to the eligibility for spouses of H-1B workers to be authorized to work, the government relied on 8 U.S.C. § 1324(h)(3), stating that “[t]he authority of the Secretary of Homeland Security (Secretary) for this regulatory amendment can be found in section 102 of the Homeland Security Act of 2002, Public Law 107–296, 116 Stat. 2135, 6 U.S.C. 112, and section 103(a) of the Immigration and Nationality Act (INA), 8 U.S.C. 1103(a), which authorize the Secretary to administer and enforce the immigration and nationality laws. In addition, section 274A(h)(3)(B) of the INA, 8 U.S.C. 1324a(h)(3)(B), recognizes the Secretary’s authority to extend employment to noncitizens in the United States.” Employment Authorization for Certain H–4 Dependent Spouses, 80 Fed. Reg. 10284 (Feb. 25, 2015) (to be codified at 8 C.F.R. 214, 274(a)). Some critics have argued that all § 1324a(h)(3) does is authorize DHS to grant work permits to those noncitizens for whom the statute independently provides permission to work. *See, e.g.,* JAN TING, CENTER FOR IMMIGRATION STUDIES, PRESIDENT OBAMA’S “DEFERRED ACTION” PROGRAM FOR ILLEGAL ALIENS IS PLAINLY UNCONSTITUTIONAL, 13 (2014) (citing John C. Eastman, *President Obama’s “Flexible” View of the Law: The DREAM Act as Case Study*, ROLL CALL Aug. 28, 2014, <http://www.rollcall.com/news/Obamas-Flexible-View-of-the-Law-The-DREAM-Act-as-Case-Study-235892-1.html>). But such a reading of the statute would render the term “or the Attorney General” and several statutory provisions that preclude work permits for specific classes of noncitizens superfluous. *See Hearing Before the U.S. H. Comm. on the Judiciary*, 114th Cong. (2015) (statement of Stephen H. Legomsky, John S. Lehmann Univ. Professor, Washington Univ. Sch. of Law) https://lofgren.house.gov/uploadedfiles/legomsky_testimony.pdf.

¹⁶ Leon Wildes, *The Nonpriority Program of the Immigration and Naturalization Service Goes Public: The Litigative Use of the Freedom of Request Act*, 14 SAN DIEGO L. REV. 42, 44–47 (1976); SHOBA SIVAPRASAD WADHIA, BEYOND DEPORTATION: THE ROLE OF PROSECUTORIAL DISCRETION IN IMMIGRATION CASES 14 (2015).

¹⁷ *See, e.g.,* Karl Thompson Memorandum, *supra* note 4 (stating that “[g]rants of deferred action under the proposed programs would, rather, represent DHS’s decision not to seek an alien’s removal for a prescribed period of time.”); *see also* Shoba Sivaprasad Wadhia, *The History of Prosecutorial Discretion in Immigration Law*, 64 AM. U. L. REV. 1285 (2015).

¹⁸ *See, e.g.,* Jeh Charles Johnson Memorandum, *supra* note 3; Memorandum from Doris Meissner, Comm’r, Immigration and Naturalization Serv., on Exercising Prosecutorial Discretion (Nov. 17, 2000), <http://www.legalactioncenter.org/sites/default/files/docs/lac/Meissner-2000-memo.pdf>; SHOBA SIVAPRASAD WADHIA, BEYOND DEPORTATION: THE ROLE OF PROSECUTORIAL DISCRETION IN IMMIGRATION CASES (2015).

¹⁹ *See, e.g.,* Shoba Sivaprasad Wadhia, *Standard Operating Procedure for Deferred Action (non-DACA)*, SELECTED WORKS OF SHOBA SIVAPRASAD WADHIA (2015), http://works.bepress.com/shoba_wadhia/36/; *see generally* SHOBA SIVAPRASAD WADHIA, BEYOND DEPORTATION: THE ROLE OF PROSECUTORIAL DISCRETION IN IMMIGRATION CASES, ch. 4, 7, 8 (2015).

requestor, along with an explanation for why deferred action is being sought, supporting documentation, proof of identity and nationality, among other requirements.²⁰

As stated previously, deferred action is not a legal status, but it is a precious form of protection because it enables a person to reside in the United States without fear of immediate deportation.²¹ Deferred action has been explicitly named in the immigration statute²² and federal court decisions,²³ including the U.S. Supreme Court.²⁴ Importantly, the regulations developed by former Immigration and Naturalization Service (“INS”) and inherited by DHS specifically list deferred action as a basis for work authorization.²⁵

The legal authority behind granting work authorization to deferred action beneficiaries was eloquently expressed by Professor Stephen H. Legomsky in his testimony before the U.S. House of Representatives Committee on the Judiciary: “In continuing to grant work permits to deferred action recipients who can demonstrate economic necessity, USCIS is exercising a discretionary power expressly granted by Congress, incorporated into the formal regulations, and in active use for more than three decades.”²⁶ A similar analysis was expressed in the Department of Justice’s Office of Legal Counsel (OLC) opinion: “Under longstanding regulations and policy guidance promulgated pursuant to statutory authority in the INA, deferred action recipients may receive two additional benefits....relying on DHS’s statutory authority to authorize certain aliens to work in the United States, DHS regulations permit recipients of deferred action to apply for work authorization if they can demonstrate an ‘economic necessity for employment.’”²⁷

For some deferred action programs, DHS has also provided some instructions to applicants about their eligibility to apply for employment authorization pursuant to a deferred action grant.²⁸ Likewise, the “Frequently Asked Questions” document (“FAQ”) created by USCIS for DACA explicitly rests the authority for work authorization on the regulatory framework outlined above, namely Title 8 of the Code of Federal Regulations. The FAQ states in part:

²⁰ Letter from Shoba Sivaprasad Wadhia, Clinical Professor and Director of Center for Immigrants’ Rights, to USCIS in re FOIA request (May 24, 2013), https://pennstatelaw.psu.edu/_file/Immigrants/FOIA_May_2013.pdf. A more elaborate description of deferred action can be found in previous work and will not be repeated here. *See, e.g.*, Shoba Sivaprasad Wadhia, *Sharing Secrets: Examining Deferred Action and Transparency in Immigration Law*, 10 U. N.H. L. REV. 1 (2012); SHOBA SIVAPRASAD WADHIA, BEYOND DEPORTATION: THE ROLE OF PROSECUTORIAL DISCRETION IN IMMIGRATION CASES, 55-57 (2015).

²¹ *See, e.g.*, Karl Thompson Memorandum, *supra* note 4; Letter from Immigration Law Teachers and Scholars to President Obama (Sept. 3, 2014), https://pennstatelaw.psu.edu/_file/Law-Professor-Letter.pdf; Letter from Immigration Law Teachers and Scholars (Nov. 25, 2014), <https://pennstatelaw.psu.edu/sites/default/files/documents/pdfs/Immigrants/executive-action-law-prof-letter.pdf>.

²² *See, e.g.*, Deportable Aliens, 8 U.S.C. § 1227(d)(4).

²³ *See generally* *Soon Bok Yoon v. INS*, 538 F.2d 1211, 1213 (5th Cir. 1976); *see also* *Vergel v. INS*, 536 F.2d 755 (8th Cir. 1976); *David v. INS*, 548 F.2d 219 (8th Cir. 1977); *Nicholas v. INS*, 590 F.2d 802 (9th Cir. 1979).

²⁴ *See, e.g.*, *Reno v. Am.-Arab Anti-Discrimination Comm.*, 525 U.S. 471, 483-4 (1999) (“At each stage the Executive has discretion to abandon the endeavor, and at the time IIRIRA was enacted the INS had been engaging in a regular practice (which had come to be known as ‘deferred action’) of exercising that discretion for humanitarian reasons or simply for its own convenience.”).

²⁵ 8 C.F.R. § 274a.12(c)(14) (2015) (stating that “[a]n alien who has been granted deferred action, an act of administrative convenience to the government which gives some cases lower priority, if the alien establishes an economic necessity for employment”). *See also* *Employment Authorization to Aliens in the U.S.*, 46 Fed. Reg. 25079-03, 25081 (May 5, 1981).

²⁶ Hearing, *supra* note 15 (Statement of Stephen H. Legomsky, John S. Lehmann Univ. Professor, Washington Univ. Sch. of Law).

²⁷ Karl Thompson Memorandum, *supra* note 4.

²⁸ *See, e.g.*, Press Release, U.S. Citizen and Immigration Services, USCIS Announces Interim Relief for Foreign Students Adversely Impacted By Hurricane Katrina (Nov. 25, 2005), http://www.uscis.gov/sites/default/files/files/pressrelease/F1Student_11_25_05_PR.pdf (“Katrina-impacted foreign academic students not covered by the Notice and their dependents (F-2 visa holders) may request deferred action and apply for employment authorization based on economic necessity.”).

Q4: If my removal is deferred under the consideration of DACA, am I eligible for employment authorization?

A4: Yes. Under existing regulations, if your case is deferred, you may obtain employment authorization from USCIS provided you can demonstrate an economic necessity for employment.²⁹

Beyond the possibility of work authorization, a grant of deferred action enables a person have a “lawful presence” in the United States for the period during which her deportation is deferred.³⁰ The distinction between a formal “legal status” and treating one as “lawfully present” is an important one, and has been recently misunderstood by critics.³¹ Lawful presence preserves the ability for a person to depart the United States and seek admission in the future without triggering one of the “unlawful presence” bars.³² Even though deferred action while in effect can cure a person’s presence, the period in deferred action does not cure previous periods of unlawful presence.³³ Like with all forms of prosecutorial discretion, deferred action does not confer a formal legal status and is revocable at any time.³⁴ By contrast, “legal status” provides legal security, a substantive right or benefit, and a possible means for permanent status in the United States.³⁵ As explained by the Department of Justice’s OLC opinion:

This difference [between lawful presence and legal status] is not, in our view, insignificant. But neither does it fundamentally transform deferred action into something other than an exercise of enforcement discretion: As we have previously noted, deferred action confers no lawful immigration status, provides no path to lawful permanent residence or citizenship, and is revocable at any time in the agency’s discretion.³⁶

B. Orders of Supervision

An “order of supervision” (“OSUP”) is another form of prosecutorial discretion in immigration law.³⁷ Unlike deferred action, which can be granted or processed at any stage of immigration enforcement, an

²⁹ 8 C.F.R. § 274a.12(c)(14) (2015); U.S. Citizenship & Immigration Services, *Frequently Asked Questions*, <http://www.uscis.gov/humanitarian/consideration-deferred-action-childhood-arrivals-process/frequently-asked-questions> (last visited Feb. 10, 2016).

³⁰ Memorandum from Donald Neufeld, Acting Associate Dir., U.S. Immigration and Customs Enforcement et al., on Consolidation of Guidance Concerning Unlawful Presence for Purposes of Sections 212(a)(9)(B)(i) and 212(a)(9)(C)(i)(I) of the Act to Field Leadership, 42 (May 6, 2009), http://www.uscis.gov/sites/default/files/USCIS/Laws/Memoranda/Static_Files_Memoranda/2009/revision_redesign_AFM.PDF [hereinafter Donald Neufeld Memorandum].

³¹ See, e.g., Anil Kalhan, *Deferred Action, Supervised Enforcement Discretion, and the Rule of Law Basis for Executive Action on Immigration*, 63 UCLA L. REV. DISCOURSE 58 (2015), http://papers.ssrn.com/sol3/papers.cfm?abstract_id=2596049 (discussing that critics of the President often conflate legal status and lawful presence); Letter from Scholars and Teachers, *supra* note 4 at 4 (describing the difference between lawful presence and status).

³² See, e.g., 8 U.S.C. §§ 1182(a)(9)(B)(i)(I)-(II) (outlining that individuals without lawful presence will be denied reentry into the country).

³³ See, e.g., Donald Neufeld Memorandum, *supra* note 30, at 4.

³⁴ Jeh Charles Johnson Memorandum, *supra* note 3.

³⁵ See, e.g., Letter from Scholars and Teachers, *supra* note 4, at 4 (indicating Judge Hanen overlooked the difference between lawful presence and legal status).

³⁶ Karl Thompson Memorandum, *supra* note 4.

³⁷ 8 U.S.C. § 1231(a)(3) (2006) (“Supervision after 90-day period”); See also Memorandum from Julie L. Myers, Assistant Secretary on Prosecutorial and Custody Discretion to All Field Office Directors and All Special Agents in Charge (Nov. 7, 2007), <https://www.ice.gov/doclib/foia/prosecutorial-discretion/custody-pd.pdf>; U.S. IMMIGRATION AND CUSTOMS

order of supervision may be processed after the government orders removal.³⁸ An OSUP may be issued by DHS after a person has been ordered removed through a truncated procedure like reinstatement,³⁹ administrative removal,⁴⁰ or after a court procedure that ends with a removal order by a judge in the Department of Justice.⁴¹ A spectrum of noncitizens may receive an order of supervision. Individuals granted withholding of removal⁴² or protection under the U.N. Convention Against Torture (“CAT”)⁴³ and protected in the United States, if in custody, may be released on an order of supervision. Likewise, a person held in custody but unable to be removed because of a country’s refusal to issue a travel document may be released on an order of supervision.⁴⁴ In some of these situations, release on an order of supervision may be required in order to comply with due process.⁴⁵ Outside of these contexts, Immigration and Customs Enforcement’s (“ICE”) choice to issue an order of supervision to individuals residing in the United States with a removal order is an act of prosecutorial discretion.⁴⁶

The immigration statute explicitly permits DHS to provide work authorization to noncitizens who have already been ordered removed.⁴⁷ Furthermore, the regulations developed by former INS and inherited by current DHS specifically list orders of supervision as a basis for work authorization. The regulation reads:

An alien against whom a final order of deportation or removal exists and who is released on an order of supervision under the authority contained in section 241(a)(3) of the Act may be granted employment authorization in the discretion of the district director only if the alien cannot be removed due to the refusal of all countries designated by the alien or under section 241 of the Act to receive the alien, or because the removal of the alien is otherwise impracticable or contrary to the public interest. Additional factors which may be considered by the district director in adjudicating the application for employment authorization include, but are not limited to, the following:

- (i) The existence of economic necessity to be employed;

ENFORCEMENT, TOOL KIT FOR PROSECUTORS (2011), <https://www.ice.gov/doclib/about/offices/osltc/pdf/tool-kit-for-prosecutors.pdf>; Jeh Charles Johnson Memorandum, *supra* note 3; Letter from Law Professors to President Barack Obama, 2-3, (Sept. 3, 2014), https://pennstatelaw.psu.edu/_file/Law-Professor-Letter.pdf.

³⁸ 8 U.S.C. § 1231(a)(3) (“Supervision after 90-day period”).

³⁹ 8 U.S.C. § 1231(a)(5) (“Reinstatement of removal orders against aliens illegally reentering”).

⁴⁰ 8 U.S.C. § 1228(b) (“Removal of aliens who are not permanent residents”). *See generally* Shoba Sivaprasad Wadhia, *The Rise of Speed Deportation and the Role of Discretion*, 5 COLUM. J. RACE & L. 1, 7-10 (2014) (presenting a background on speed deportation removal procedures).

⁴¹ 8 U.S.C. § 1229; 8 C.F.R. § 1240.41; 8 C.F.R. § 1241.1 (describing when an order of removal becomes final once a person has gone through removal proceedings before an immigration judge).

⁴² *See* 8 U.S.C. § 1231 (b)(3) (2006) (“Supervision after 90-day period. If the alien does not leave or is not removed within the removal period, the alien, pending removal, shall be subject to supervision under regulations prescribed by the Attorney General...”).

⁴³ *See* 8 C.F.R. § 208.18 (2009), for provisions of U.S. regulations relating to the Convention Against Torture.

⁴⁴ *See* 8 C.F.R. § 241.13 (a), (h); *See also* Letter from Catrina M. Pavlik-Keenan, FOIA Officer, U.S. Immigration and Customs Enforcement, to author (May 1, 2015), http://works.bepress.com/shoba_wadhia/33/

⁴⁵ *See e.g.*, *Zadvydas v. Davis*, 533 U.S. 678, 679 (2001) (noting that “[t]he post-removal-period detention statute, read in light of the Constitution’s demands, implicitly limits an alien’s detention to a period reasonably necessary to bring about that alien’s removal from the United States, and does not permit indefinite detention...A statute permitting indefinite detention would raise serious constitutional questions. Freedom from imprisonment lies at the heart of the liberty protected by the Due Process Clause.”).

⁴⁶ 8 U.S.C. § 1231(a)(3) (2006) (“Supervision after 90-day period”).

⁴⁷ 8 U.S.C. § 1231(a)(7) (permitting the Attorney General under certain narrow circumstances to grant work authorization to aliens who have received final orders of removal but cannot be removed).

- (ii) The existence of a dependent spouse and/or children in the United States who rely on the alien for support; and
- (iii) The anticipated length of time before the alien can be removed from the United States.⁴⁸

Beyond the primary sources of law, ICE policy documents detail the procedures for orders of supervision.⁴⁹ While an order of supervision grant can protect a person from removal and is anchored with the possibility of work authorization, this form of discretion is not as precious as deferred action because it does not provide for a period of lawful presence and, in many cases, requires the beneficiary to report to a local immigration enforcement office.⁵⁰ The conditions may also include geographic limitations on where the individual can reside while under supervision and restrictions on the individual's freedom, such as an electronic monitoring bracelet.⁵¹ ICE data provides that an alien may be released on an order of supervision according to the following guidelines:

- a. Process is typically handled by ERO [Enforcement Removal Operations]
- b. Alien has been held in detention and has final order of removal:
 - i. In process of acquiring travel documents, or
 - ii. Granted deferred action (for example, for humanitarian reasons), or
 - iii. Travel documents are not forthcoming in the reasonably foreseeable future so alien cannot be held in detention any longer, based on post order custody review (POCR).⁵²

ICE's data also indicates that the Form 220-B used to process orders of supervision may typically contain the following information regarding conditions:

- Reporting frequency
- Requirement to provide details on activities and associations and any other information ICE considers appropriate
- Travel restrictions — notification for travel outside specified boundaries for more than 48 hours
- Compliance with conditions of parole or probation for any criminal charge.⁵³

Internal guidance from ICE also reveals that noncitizens may be required to pay a bond as a condition of their release on an order of supervision.⁵⁴ Individuals who fail to comply with an order of supervision can be taken back into custody.⁵⁵ In all of these ways, a release on an order of supervision is more limiting than a grant of deferred action.

⁴⁸ 8 C.F.R. § 274a.12(c)(18) (2015).

⁴⁹ ICE provided the author with 107 pages of information pertaining to the agency's internal policies and procedures relating to orders of supervision. *See generally* Letter from Catrina M. Pavlik-Keenan, FOIA Officer, U.S. Immigration and Customs Enforcement, to author (May 1, 2015), http://works.bepress.com/shoba_wadhia/33/ (describing alternatives to detention and electronic monitoring guidelines for released aliens).

⁵⁰ *See, e.g., Id.*; *see also* Geoffrey Hereen, *The Status of Nonstatus*, 64 AM. U. L. REV. 1115, 1116 (2015).

⁵¹ Letter from Catrina M. Pavlik-Keenan, *supra* note 49. *See generally* Memorandum by Gary Mead to Field Office Directors on Orders of Supervision, Immigration and Customs Enforcement (Sep. 28, 2006), http://www.ice.gov/doclib/foia/dro_policy_memos/ordersofsupervisionsep282006.pdf (outlining ICE's own policy and procedure for processing orders of supervision in 2006); *see also* Geoffrey Hereen, *The Status of Nonstatus*, 64 AM. U. L. REV. 1115, 1146-48 (2015) (describing how an order of supervision perpetuates the "nonstatus" of thousands of persons living in the United States).

⁵² Letter from Catrina M. Pavlik-Keenan, *supra* note 49.

⁵³ *Id.*

⁵⁴ *Id.*

⁵⁵ 8 C.F.R. § 241.4(l) (2015).

C. Parole

Parole is a long-established concept in immigration law and was first codified by Congress in 1952.⁵⁶ The immigration statute defines parole:

(A) The Attorney General may, ...in his discretion parole into the United States temporarily under such conditions as he may prescribe only on a case-by-case basis for urgent humanitarian reasons or significant public benefit any alien applying for admission to the United States, but such parole of such alien shall not be regarded as an admission ...

(B) The Attorney General may not parole into the United States an alien who is a refugee unless the Attorney General determines that compelling reasons in the public interest with respect to that particular alien require that the alien be paroled into the United States rather than be admitted as a refugee under section 1157 of this title.⁵⁷

The regulations elaborate the bases for parole.⁵⁸ Furthermore, federal regulations provide that an alien paroled into the United States temporarily for emergency reasons or reasons may apply for employment authorization.⁵⁹ Finally, DHS has published internal guidelines and public memoranda on different forms of parole, all of which emanate from the above-stated statutory and regulatory framework.⁶⁰ Parole in place, or “PIP,” is another tool available to the spouses, parents and children of military members seeking to adjust status in the United States.⁶¹ In November 2014, and as part of his executive actions on immigration, President Barack Obama advised USCIS to create a parole program aimed at entrepreneurs:

... [T]o inventors, researchers, and founders of start-up enterprises who may not yet qualify for a national interest waiver, but who have been awarded substantial U.S. investor financing or otherwise hold the promise of innovation and job creation through the development of new technologies or the pursuit of cutting edge research. Parole in this type of circumstance would allow these individuals to temporarily pursue research

⁵⁶ 8 U.S.C. § 1182(d)(5)(A) (2013).

⁵⁷ 8 U.S.C. § 1182(d)(5)(A) (2013).

⁵⁸ 8 C.F.R. § 212.5 (2011).

⁵⁹ 8 C.F.R. § 274a.12(c)(11)(2015) (describing categories of aliens who must apply for employment authorization and providing that “[a]n alien paroled into the United States temporarily for emergency reasons or reasons deemed strictly in the public interest pursuant to § 212.5 of this chapter.”).

⁶⁰ In response to FOIA request from the author about policies relating to parole, USCIS produced 77 pages of information, including the standard operating procedure for “parole in place.” Memorandum from Shoba Sivaprasad Wadhia on USCIS Documents on Parole to Interested Parties, (Jan. 28, 2015), http://works.bepress.com/cgi/viewcontent.cgi?article=1060&context=shoba_wadhia; see generally SHOBA SIVAPRASAD WADHIA, BEYOND DEPORTATION, THE ROLE OF PROSECUTORIAL DISCRETION IN IMMIGRATION CASES, 27 (2015) (providing a history of parole in the immigration context); see also David A. Martin, *A Defense of Immigration-Enforcement Discretion: The Legal and Policy Flaws in Kris Kobach's Latest Crusade*, 122 YALE L.J. ONLINE 167 (2012), <http://yalelawjournal.org/forum/a-defense-of-immigration-enforcement-discretion-the-legal-and-policy-flaws-in-kris-kobachs-latest-crusade> (describing how parole has operated historically).

⁶¹ Policy Memorandum, U.S. Citizenship and Immigration Services, Parole of Spouses, Children and Parents of Active Duty Members of the U.S. Armed Forces, the Selected Reserve of the Ready Reserve, and Former Members of the U.S. Armed Forces or Selected Reserve of the Ready Reserve and the Effect of Parole on Inadmissibility under Immigration and Nationality Act § 212(a)(6)(A)(i) (Nov. 15, 2013), http://www.uscis.gov/sites/default/files/USCIS/Laws/Memoranda/2013/2013-1115_Parole_in_Place_Memo_.pdf.

and development of promising new ideas and businesses in the United States, rather than abroad.⁶²

Like with those who are granted deferred action, an individual granted parole is treated as “lawfully present,”⁶³ but provides no formal legal status.⁶⁴

III. EXAMINING DATA ON EMPLOYMENT AUTHORIZATION APPLICATIONS PROCESSED PURSUANT TO A GRANT OF PROSECUTORIAL DISCRETION

As the preceding discussion showed, the legal foundation for DHS to provide work authorization to certain noncitizens who otherwise lack a formal legal status is clear. A second and important question is whether the law itself has been applied. This section analyzes a data set of 233,245 work permit applications processed with receipt dates ranging from June 19, 1990 through October 20, 2014 on the following three bases: parole, deferred action and order of supervision.⁶⁵

A. Number of Employment Authorization Applications Processed

In 2014, ICE data included 233,245 work authorization applications pursuant to parole, deferred action, or an order of supervision.⁶⁶ Of this number, 202,619 or 87% of applications were approved.⁶⁷ This data reveals the prevalent adjudication of work authorization applications based on a grant of prosecutorial discretion and the degree to which applications for employment by USCIS are pending, denied, or closed (canceled), even where the applicant has been granted relief in the form of prosecutorial discretion.

⁶² *Infographic: President Obama Is Taking Steps To Fix Our Broken Immigration System*, THE WHITE HOUSE (Nov. 20, 2014), <https://www.whitehouse.gov/share/infographic-president-obama-taking-steps-fix-our-broken-immigration-system>.

⁶³ Donald Neufeld Memorandum, *supra* note 31.

⁶⁴ Martin, *supra* note 60.

⁶⁵ In response to a FOIA request, USCIS sent the author data set that covers applications with receipt dates ranging from June 19, 1990 through October 20, 2014. The letter stated in part:

“Requester seeks information about Form I-765, Application for Employment Authorization-Class Preference C11 (Parole) 8 C.F.R. 274a.12(c)(11); C14 (Deferred Action Granted) 8 C.F.R. 274a.12(c)(14); C18 (Order of Supervision) 8 C.F.R. 274a.12(c)(18) maintained by USCIS since August 1, 2013.

Each Application

1. Nationality or country of birth
2. Gender
3. Age
4. Whether the applicant has legal counsel or a Form G-28 on file
5. Time between the receipt date on an application and a decision
6. Whether the application was approved or denied

If available, include comments or written factors explaining why an application was denied or granted.”

Letter from Shoba Sivaprasad Wadhia to FOIA Officer, U.S. Citizenship and Immigration Services (Sept. 24, 2014) (on file with author).

⁶⁶ Letter and Response from Jill A. Eggleston, FOIA Operations Dir., U.S. Citizenship and Immigration Services, to author (Dec. 30, 2014) (on file with author) [hereinafter Employment Authorization Data].

⁶⁷ *Id.*

Table 1: Application Decisions

Decision	Total	Percentage
Admin Closed	1,234	0%
Approved	202,619	87%
Denied	14,073	6%
Pending	15,319	7%

B. Employment Authorization Application Decisions by Gender

In reviewing the application decisions by gender, out of the total 233,245 applications, 117,768 of the applicants approved were female, while 84,492 of the applicants approved were male.⁶⁸ One possibility for this difference is that a significant portion of those seeking work authorization pursuant to a deferred action grant are women who have been granted protection under the Violence Against Women Act (VAWA) self-petition or conditionally approved for protection as a victim of crime (U-Visa).⁶⁹ Available to both men and women, the VAWA Self Petition and U-Visa are two remedies existing under the immigration law for victims. Whereas the VAWA Self-Petition is limited to certain parents, children and spouses who have suffered abuse at the hands of a United States citizen or lawful permanent resident, the U-Visa is available to victims of a wide-range of crimes and without regard to the legal status of the abuser.⁷⁰ Persons who satisfy the qualifications for a VAWA Self-Petition or U-Visa during a fiscal year during which the statutory caps have already been reached are provided deferred action as a temporary form of protection.⁷¹

⁶⁸ *Id.*

⁶⁹ When USCIS adjudicates a U-Visa or VAWA self-petition in year during which the statutory cap has already been reached, the case is conditionally approved until the following year and the applicant is placed in a deferred action status during this period. *See e.g.*, WILLIAM A. KANDEL, CONG. RESEARCH SERV., R42477, IMMIGRATION PROVISIONS OF THE VIOLENCE AGAINST WOMEN ACT (VAWA) (2012), www.fas.org/sgp/crs/misc/R42477.pdf (“If the I-360 petition is ultimately approved, the foreign national is granted *deferred action status*, a “quasi” status and administrative act that halts actions to remove the individual from the United States for a renewable period of time.”); U.S. Citizenship and Immigration Services, *Victims of Criminal Activity: U Nonimmigrant Status*, <http://www.uscis.gov/humanitarian/victims-human-trafficking-other-crimes/victims-criminal-activity-u-nonimmigrant-status/victims-criminal-activity-u-nonimmigrant-status> (last visited Feb. 11, 2016) (“If the cap is reached before all U nonimmigrant petitions have been adjudicated, USCIS will create a waiting list for any eligible principal or derivative petitioners that are awaiting a final decision and a U-visa. Petitioners placed on the waiting list will be granted deferred action or parole and are eligible to apply for work authorization while waiting for additional U-visas to become available.”); SHOBA SIVAPRASAD WADHIA, BEYOND DEPORTATION: THE ROLE OF PROSECUTORIAL DISCRETION IN IMMIGRATION CASES, 61-62 (2015).

⁷⁰ *See* Victims of Trafficking and Violence Protection Act of 2000, 22 U.S.C. § 7105(b)(1)(B)(i) (2000); 8 U.S.C. §§ 1154(a)(1)(A)(v)-(vii); 8 U.S.C. § 1101(a)(15)(U).

⁷¹ U.S. Citizenship and Immigration Services, *supra* note 69; *See also*, Karl Thompson Memorandum, *supra* note 4, at 15. *See also* SHOBA SIVAPRASAD WADHIA, BEYOND DEPORTATION: THE ROLE OF PROSECUTORIAL DISCRETION IN IMMIGRATION CASES 62 (2015), for a historical account of the types of individuals and groups who have qualified for deferred action.

Table 2: Application Decisions by Gender

Decision	Female Applicants	Male Applicants
Admin Closed	634	591
Approved	117,768	84,492
Denied	7,796	6,208
Pending	8,018	7,244

C. Employment Authorization Applications and Decisions by Nationality

In looking specifically at nationality, the largest share of work authorization applications were made by nationals of Mexico, Cuba, Guatemala, El Salvador, and Honduras. 83,189 of the applicants were Mexican; 68,556 of the applicants were Cuban; 8,078 of the applicants were Guatemalan, 6,739 of the applicants were El Salvadoran; and 6,564 of the applicants were Honduran.⁷² More than 74% of the total number of work authorization application processed was represented by these five nationalities.⁷³ With the exception of Cuba, nationals from the remaining four countries resemble the largest share of the unauthorized population overall.⁷⁴ Moreover, nationals from Mexico, Guatemala, Honduras, and El Salvador represent the largest number of removals by DHS. Nationals from these four countries represented 419,158 (96%) of 438,421 removals in 2013.⁷⁵ Thus, as these nationals, Mexicans in particular, appear to benefit greatly from prosecutorial discretion decisions under which work authorization is a possibility, the rate of removal is far greater and, in the big picture, presents an enforcement-heavy policy against these populations. To illustrate this point, the annual statistics maintained by DHS reveal that 69% of the total undocumented population comes from Mexico, Guatemala, El Salvador, and Honduras, while more than 90% of those deported in the same year were nationals of these same four countries.⁷⁶

⁷² Employment Authorization Data, *supra* note 66.

⁷³ *Id.*

⁷⁴ See MIGRATION POLICY INSTITUTE, PROFILE OF UNAUTHORIZED POPULATION: UNITED STATES, (last visited Oct. 26, 2015), <http://www.migrationpolicy.org/data/unauthorized-immigrant-population/state/US> (estimates from Migration Policy Institute indicate that Mexican nationals comprise of 58% of the unauthorized population, followed by Guatemala (6%), El Salvador (3%) and Honduras (2%)).

⁷⁵ See, e.g., JOHN F. SIMANSKI, DEPARTMENT OF HOMELAND SECURITY, OFFICE OF IMMIGRATION STATISTICS, ANNUAL REPORT, IMMIGRATION ENFORCEMENT ACTIONS: 2013 (Sep. 2014), http://www.dhs.gov/sites/default/files/publications/ois_enforcement_ar_2013.pdf.

⁷⁶ *Id.*

Table 3: Application Decisions by Top 5 Most Represented Countries

Country	Admin Closed	Approved	Denied	Pending
Mexico	272	71,034	5,284	6,599
Cuba	282	64,742	1,222	2,310
Guatemala	24	6,204	787	1,063
El Salvador	36	5,035	724	944
Honduras	20	5,100	543	901

D. Employment Authorization Applications and Outcomes by Processing Center

Looking specifically at decisions by processing unit, the largest number of applications were processed and approved by the National Benefits Center (“MSC”) and Vermont Service Center (“VSC”).⁷⁷ MSC is located in Lee’s Summit, Missouri, and is responsible for preparing applications for adjudication that require an interview at a USCIS Field Office.⁷⁸ VSC is located in St. Albans, Vermont, and is one of USCIS’ four regional service centers.⁷⁹

Table 4: Application Decisions by Service Centers⁸⁰

Service Center	Admin Closed	Approved	Denied	Pending
CSC	4	36	12	103
MSC	893	106,101	7,169	6,512
NSC	26	761	78	454
TSC	10	228	61	384
VSC	301	95,493	6,753	7,866

⁷⁷ Employment Authorization Data, *supra* note 66.

⁷⁸ USCIS Blog Team, *The National Benefits Center: What It Is and What It Does*, THE BEACON: THE OFFICIAL BLOG OF THE USCIS (June 5, 2012, 3:11 PM), <http://blog.uscis.gov/2012/06/national-benefits-center-what-it-is-and.html>.

⁷⁹ USCIS Service and Office Locator, St. Albans, Vermont Service Center, U.S. CITIZENSHIP AND IMMIGRATION SERVICES, <https://www.uscis.gov> (follow “Find a USCIS Office” hyperlink; then follow “Service Centers and our National Benefit Center” hyperlink; then choose “Vermont” from “Find your offices by state” section; then follow “Vermont Service Center” hyperlink).

⁸⁰ See U.S. Citizenship and Immigration Services, *USCIS Service and Officer Locator*, https://egov.uscis.gov/crisgwi/go?action=offices.type&OfficeLocator.office_type=SC (last visited Mar. 2, 2016) (describing the various service centers). The full name of each abbreviated service center is as follows: CSC, California Service Center; MSC, National Service Center; NSC, Nebraska Service Center; TSC, Texas Service Center; VSC, Vermont Service Center.

E. Employment Authorization Applications and Outcomes by Category and Year

Within this set, 48,692 (21%) applications were based on C18, or Order of Supervision (“OSUP”); 114,563 (49%) of the applications were based on C14, or Deferred Action (“DA”); and 69,990 (30%) applications were based on C11, or Parole.⁸¹

Table 5: Employment Authorization Document Basis

Basis	Applicants	Percentage
C11 (Parole)	69,990	30%
C14 (DA)	114,563	49%
C18 (OSUP)	48,692	21%

F. Employment Authorization Applications and Approvals Based on a Deferred Action Grant

Recent and great attention has been paid to deferred action recipients who apply for work authorization on the basis of economic necessity. As described in the previous section, the statutory and regulatory basis for providing work authorization to qualifying individuals spans more than three decades and pre-dates the deferred action programs announced by President Obama in 2012 and 2014.⁸² From 2012 through 2014, there was a sharp increase in applications for non-DACA deferred action.

In the deferred action program, work authorization applications on this basis jumped from 4,094 in 2012 to 23,267 in 2014.⁸³ A greater number of pending VAWA or U-visa applications for which deferred action and work authorization is available in the interim and the greater visibility of the general deferred action program by the public and attorneys in the wake of the DACA may explain this fivefold increase. After President Obama announced the DACA program, attorneys, policymakers, and community members were engaged in the legal authority for the various types of prosecutorial discretion and the legal underpinnings of DACA.⁸⁴ For example, the FAQ guide that accompanied the DACA program included this question and answer about deferred action:

Q1: What is deferred action?

A1: Deferred action is a discretionary determination to defer a removal action of an individual as an act of prosecutorial discretion. For purposes of future inadmissibility based upon **unlawful presence**, an individual whose case has been deferred is not considered to be unlawfully present during the period in which deferred action is in effect. An individual who has received deferred action is authorized by DHS to be present in the United States, and is therefore considered by DHS to be lawfully present during the period deferred action is in

⁸¹ Employment Authorization Data, *supra* note 66.

⁸² See 8 U.S.C. §1324(a)(h)(3) (2015); 8 C.F.R. §274a.12(c) (2015); Karl Thompson Memorandum *supra* note 4, at 3-7; Letter from Law Professors to President Barack Obama, 2-3, (Sept. 3, 2014), https://pennstatelaw.psu.edu/_file/Law-Professor-Letter.pdf; SHOBA SIVAPRASAD WADHIA, BEYOND DEPORTATION: THE ROLE OF PROSECUTORIAL DISCRETION IN IMMIGRATION CASES, 55 (2015).

⁸³ Employment Authorization Data, *supra* note 66.

⁸⁴ See *Crane v. Napolitano*, 920 F. Supp. 2d 724, 734 (N.D. Tex. 2013) (plaintiffs challenged "the portions of the Directive and Morton Memorandum that require ICE officers to exercise prosecutorial discretion and defer action against aliens who satisfy the Directive's criteria."); see generally Brief of Amici Curiae in Support of Respondents, *Crane v. Johnson*, 783 F.3d 255 (5th Cir. 2015) (No. 14-10049), 2014 WL 10657554.

effect. However, deferred action does not confer **lawful status** upon an individual, nor does it excuse any previous or subsequent periods of unlawful presence.

Under existing regulations, an individual whose case has been deferred is eligible to receive employment authorization for the period of deferred action, provided he or she can demonstrate “an economic necessity for employment.” DHS can terminate or renew deferred action at any time, at the agency’s discretion.⁸⁵

Notably, it is presumed that the approvals contained in this data set do not include DACA recipients.⁸⁶

The high rate of applications for non-DACA deferred action-based work authorization does not provide the full picture as the approval rate for deferred action based work authorization dropped between 2012 and 2014. In 2014, 23,267 applications for work authorization were requested, of which 15,476 (67%) were granted and 7,499 (32%) were pending.⁸⁷ In 2013, 4,257 applications were made to USCIS and 3,650 (86%) were granted and only 123 (3%) were pending.⁸⁸ In 2012, 3,573 (87%) were granted and 69 (2%) applications or were pending.⁸⁹

Table 6: Deferred Action Applications

Year	Applications Received	Granted	Pending
2012	4,094	3,573	69
2013	4,257	3,650	123
2014	23,267	15,476	7,499

The lower approval rates for deferred action in 2014 may be explained in part by the volume of applications or the fact that employment authorization applications filed in earlier years would normally be adjudicated before those applications filed in later years. Another reason for a pending or denied request may be tied to the time USCIS requires to review the new worksheet created for applicants to use to document the “economic necessity” component of the regulatory scheme that governs deferred action based work authorization. Another possibility is that USCIS is more vigilant about adjudicating work authorization applications based on deferred action in the wake of the political discourse that emerged during the Obama Administration around executive action and immigration. A final possibility is that USCIS is simply overwhelmed with applications for work authorization based on the DACA program that they are taking longer to process these applications, spending less time on these applications, or avoiding internal conflict or discussion in close cases. These theories speculate at best.

⁸⁵ U.S. Citizenship & Immigration Services, *supra* note 29.

⁸⁶ USCIS has indicated that the data set the author received on deferred action does not include DACA based work authorization applications. Email from Cindy Holt, Government Information Specialist, FOIA/PA, to author (April 28, 2015, 2:42pm EST) (on file with author).

⁸⁷ Employment Authorization Data, *supra* note 66.

⁸⁸ *Id.*

⁸⁹ *Id.*

G. Employment Authorization Applications and Approvals Based on an Order of Supervision Grant

Beyond deferred action, there were a steady number of work authorization applications based on an order of supervision in 2014 (10,795) and 2013 (10,595).⁹⁰ Notably, there was a sharp drop in approvals in work authorization applications based on an order of supervision grant. Of the 10,795 people who applied for work authorization based on an order of supervision in 2014 only 6,950 (64%) were granted and 3,402 (32%) applications were pending.⁹¹ Compare this to 2013, where 9,466 applications were approved, 1,060 applications were denied and 26 applications were pending.⁹² Perhaps USCIS denied applications based on a failure to meet one of the underlying factors like economic necessity. Importantly, as the data does not subdivide the category of order of supervision, it is difficult to know whether the orders they served were granted as an exercise of prosecutorial discretion or on other bases. For example, a person can be released on an OSUP after a grant of withholding of removal under the Convention Against Torture or because the government was required to release the person on an order of supervision based on due process grounds.

H. Employment Authorization Applications and Approvals Based on a Parole Grant

With regard to parole, there was some consistency in the number of applications processed between 2012 and 2014. The number of applications in 2012 was 10,568.⁹³ That increased in 2013 to 12,198 and then decreased again in 2014 yielding 10,264 applications.⁹⁴ Like with orders of supervision, work permit applications based on parole were granted at far higher proportions in 2012 and 2013 as compared to 2014, when 7,764 (76%) of the total 10,264 applications were approved.⁹⁵ Again, the possibility that applications filed in earlier years would be processed before the later ones is high. In 2014, 2,331 (23%) applications based on a parole grant were pending.⁹⁶ The following two tables provide a visual for applications for employment authorization based on deferred action, orders of supervision, and parole between 2012 and 2014.

Table 7: Basis of Employment Authorization Applications 2012-2014

Year	C11 (Parole)	C14 (DA)	C18 (OSUP)
2012	10,568	4,094	8,267
2013	12,198	4,257	10,595
2014	10,264	23,267	10,795

⁹⁰ Employment Authorization Data, *supra* note 66.

⁹¹ *Id.*

⁹² *Id.*

⁹³ *Id.*

⁹⁴ *Id.*

⁹⁵ *Id.*

⁹⁶ *Id.*

Table 8: Basis of Approved Applications 2012-2014

Year	C11 (Parole)	C14 (DA)	C18 (OSUP)
2012	10,346	3,573	7,608
2013	11,890	3,650	9,466
2014	7,764	15,476	6,950

IV. EMPLOYMENT AUTHORIZATION FOR PROSECUTORIAL DISCRETION GRANTEES: A GOOD POLICY?

Between March 17, 2015 and April 6, 2015, a qualitative survey to attorneys on work permits and prosecutorial discretion survey was conducted⁹⁷ to three national electronic mailing lists comprised of attorneys with experience applying for work authorization pursuant to a prosecutorial discretion grant.⁹⁸ Twenty-two attorneys responded to the survey and based on this set, more than 1,000 applications for work authorizations were filed on the basis of prosecutorial discretion since 2010.⁹⁹ While some of the data included work authorizations filed pursuant to a pending form of relief from removal (following a grant of administrative closure from an immigration judge), the vast majority of applications were filed on the basis of a particular form of prosecutorial discretion: deferred action for childhood arrivals (DACA); deferred action (non-DACA); order of supervision; or parole.¹⁰⁰ Most respondents indicated that they had not changed their strategy or procedure for preparing work authorization applications.¹⁰¹

Not surprisingly, the survey responses overwhelmingly favored a broad policy for allowing prosecutorial discretion recipients to work and raised important questions about the application of work authorization to recipients of prosecutorial discretion. Beyond the policy views on work permits and prosecutorial discretion expressed by attorneys responding to the survey are the personal stories of those who have been able to work because of a prosecutorial discretion grant. As described by Gaby Gomez, a young man who was granted work authorization pursuant to his DACA status:

DACA, though a temporary measure, paved the way for me to seize new academic and career opportunities that once felt out of reach. DACA made it possible for me to spend last summer working on social justice issues impacting the Latino community. This work motivated me to approach my

⁹⁷ Shoba Sivaprasad Wadhia, *Survey: Work Permits and Prosecutorial Discretion* (Mar. 17, 2015) (on file with author).

⁹⁸ *Id.* The survey included the following substantive questions:

“ 1. Since 2010, have you applied for work authorization based on a prosecutorial discretion request with/ grant from USCIS, CBP or ICE?
 2. If you answered yes to question 1, how many work authorization applications have you filed?
 3. If you answered yes to question 1, on what basis did you apply for work authorization?
 4. Have you been granted work authorization under a different code than the code you used to apply? Please explain.
 5. How do you prepare a work authorization application based on a grant of prosecutorial discretion?
 6. Have you changed your strategy in applying for work authorization pursuant to prosecutorial discretion? Has your success rate changed in the last five years? Please describe.
 7. Do you have a comment that best captures your opinion on work permits and prosecutorial discretion? For example, do you think limiting work authorization to only certain forms of PD is good policy? Why or why not?”

⁹⁹ *Id.*

¹⁰⁰ *Id.*

¹⁰¹ *Id.*

studies with renewed interest and with an impetus to steer them in the direction of public service and advocacy. I am a proud recipient of DACA.¹⁰²

Carlos Martinez is another DACA recipient whose opportunity to apply for and receive work authorization based on DACA changed his life and landed him a “dream job.”

Eager to get a work permit so he could begin pursuing his career, Martinez began preparing to apply for deferred action even before the forms and guidelines to apply became available. He gathered about 180 documents to prove he has been living in the U.S. for more than 20 years. By the time the federal government began accepting applications for deferred action, Martinez was ready to apply.

...The wait to finally begin pursuing his career ended in September when he received a letter in the mail notifying him that he had been approved for deferred action. A few weeks later, he received his work permit and immediately went to apply for a social security number. With a work permit and a social security number in hand, he began applying for jobs. In November, Martinez applied for the job at IBM, which he described as his “dream job.”¹⁰³

Though the data analyzed in this article focuses on work authorization applications pursuant to deferred action outside of DACA, orders of supervision and parole, Gaby and Carlos’s stories highlight the profound impact of working outside of the shadows even through the tenuous status of prosecutorial discretion. The economic benefits to Gaby and Carlos are similar to reports of DACA recipients across the country, as detailed in one survey of 1,157 individuals who either applied or considered applying for DACA.¹⁰⁴ In this sample, DACA recipients reported the following economic improvements since receiving DACA:

- 66% went from unemployed to employed after receiving DACA
- 79% got what they considered to be a ‘better job’
- 68% worked better hours
- 64% earned higher salary
- 41% got a job that provided health or other benefits
- 77% reported that they are now able to more consistently cover bills
- 78% are better able to contribute to monthly household expenses.¹⁰⁵

¹⁰² National Council of La Raza, *Two Years Later: Taking Stock of DACA's Success*, HUFFINGTON POST LATINO VOICES (June 19, 2015, 4:46 PM), http://www.huffingtonpost.com/national-council-of-la-raza-/two-years-later-taking-st_b_5512832.html.

¹⁰³ Griselda Nevarez, *Deferred Action Recipient Lands 'Dream Job' A Year After Program's Announcement*, HUFFINGTON POST LATINO VOICES (June 13, 2015, 5:07 PM), http://www.huffingtonpost.com/2013/06/13/deferred-action-recipient-job_n_3437530.html.

¹⁰⁴ CATLIN PATLER & JORGE A. CABRERA, UCLA INSTITUTE FOR RESEARCH ON LABOR AND EMPLOYMENT, FROM UNDOCUMENTED TO DOCUMENTED, IMPACTS OF THE DEFERRED ACTION FOR CHILDHOOD ARRIVALS (DACA) PROGRAM, THREE YEARS FOLLOWING ITS ANNOUNCEMENT (June 2015), http://www.irle.ucla.edu/publications/documents/Patler_DACA_Report_061515.pdf.

¹⁰⁵ *Id* at 6. Despite these benefits, DACA recipients in this same study reported having challenges with paying the \$465 application fees for DACA. Furthermore, the study’s authors point out that DACA recipients remain in lower wage jobs and find it difficult to meet basic needs. *Id* at 3.

Beyond the individual benefits work authorization can provide for a noncitizen who is otherwise unable to find work, government reports and testimonies and policy organizations have showcased the broader economic benefits of programs like deferred action.¹⁰⁶ According to an April 2, 2015, column published by the Center for American Progress and titled: “Assessing the Economic Impacts of Granting Deferred Action through DACA and DAPA”:

[T]here is much to gain economically from enabling the DACA- and DAPA-eligible population to work lawfully. As DACA and DAPA recipients earn higher wages—an estimated total of \$103 billion more over the next decade—the U.S. gross domestic product, or GDP, will increase cumulatively by \$230 billion over the next 10 years. And it is not just beneficiaries of deferred action who will see wage gains: A booming economy will increase the incomes of all Americans by an estimated \$124 billion. The growth in economic activity will also create an average of 28,814 jobs per year over the next 10 years for all Americans.¹⁰⁷

Similarly, testimony by Social Security Administration’s Chief Actuary, Stephen C. Goss to the Senate Homeland Security and Governmental Affairs Committee states:

The largest effect of the executive actions for individuals who are currently undocumented or have overstayed a visa is the opportunity to pursue DACA or DAPA status and thereby gain legal work authorization. These individuals will be able to reapply for deferred action every 3 years, as long as they continue to meet the qualifications and do not pose a security threat. The additional individuals entering the formal economy and paying taxes will have positive effects on payroll tax revenue for several decades, followed by decades where these individuals will be past working ages and will receive earned benefits from Social Security.¹⁰⁸

The economic impact of DACA or DAPA (or legislation to undo these programs) has also been reported by the Congressional Budget Office (CBO) and the staff of the Joint Committee on Taxation (JCT). In response to one related appropriations bill that would have dismantled the deferred action programs announced by President Obama in 2014:

JCT expects that the largest effect of [this bill] would be decreased reporting of employment income by people who would be legally allowed to work because of the deferred action programs under current law but

¹⁰⁶ *Financial Implications for the Social Security Trust Funds of the President’s Executive Actions on Immigration, Announced November 20, 2014: Testimony to the S. Comm. on Homeland Sec. and Governmental Affairs* 114th Cong. (2015) (statement of Stephen C. Goss, Chief Actuary, Social Security Administration), www.hsgac.senate.gov/download/?id=de43c123-ca0c-4554-a4c0-e1c5a70f99e7; see also Hearing, *supra* note 15 (statement of Stephen H. Legomsky, John S. Lehmann Univ. Professor, Washington Univ. Sch. of Law); see generally Roberto G. Gonzales & Veronica Terriquez, *How DACA is Impacting the Lives of Those Who are Now DACAmented*, NATIONAL UNDACAMENTED RESEARCH PROJECT, (American Immigration Council) Aug. 15, 2013, <http://www.immigrationpolicy.org/just-facts/how-daca-impacting-lives-those-who-are-now-dacamented>; see also *Economic Benefits of Granting Deferred Action to Unauthorized Immigrants Brought to U.S. as Youth*, AMERICAN IMMIGRATION COUNCIL, (June 22, 2012), <http://immigrationpolicy.org/just-facts/economic-benefits-granting-deferred-action-unauthorized-immigrants-brought-us-youth>.

¹⁰⁷ Silva Mathema, *Assessing the Economic Impacts of Granting Deferred Action Through DACA and DAPA*, CENTER FOR AMERICAN PROGRESS (Apr. 2, 2015), <https://www.americanprogress.org/issues/immigration/news/2015/04/02/110045/assessing-the-economic-impacts-of-granting-deferred-action-through-daca-and-dapa/>.

¹⁰⁸ Goss, *supra* note 106.

would not be legally allowed to work under the act. Moreover, JCT expects that wages for affected workers would decrease relative to their wages under current law as a result of their losing legal status under the act. That decrease in reported wages would cause decreases in receipts, most of which would be from Social Security taxes, which are categorized as off budget.¹⁰⁹

On the law and policy, opponents might argue that the statute does not permit DHS to grant employment authorization to a person granted deferred action or another qualifying form of prosecutorial discretion. The Center for Immigration Studies, an organization that advocates restrictive immigration policy, has stated, “[t]he claim that 8 U.S.C. § 1324a(h) authorizes DHS to allow aliens to work is simply nuts.”¹¹⁰ Moreover, opponents might also argue that no person should receive permission to work until the U.S. labor market is tested. After all, many employment-based immigration categories require a qualifying relationship between a U.S. employer and the foreign national, efforts by the U.S. employer to recruit American workers, and certification from the U.S. Department of Labor.¹¹¹ Contrast the employment-based immigration system to the employment authorization available to grantees of prosecutorial discretion where the individual can be employed anywhere and without any of these safeguards. This argument was at the heart of a lawsuit filed by SAVE Jobs USA in connection with a new regulation by DHS enabling certain spouses of temporary H1-B workers to be employed.¹¹² The lawsuit alleged “DHS exceeds its authority by ignoring the statutory labor protections that must be applied to foreign labor. ... The H-4 Rule is in violation of 8 U.S.C. §§ 1182(a)(5)(A), 1227(a)(1), that bar the admission of foreign labor unless the Department of Labor certifies, ‘the employment of such alien will not adversely affect the wages and working conditions of workers in the United States similarly employed.’”¹¹³

Apart from protecting the American workforce, opponents might also see an inconsistency with permitting individuals in a tenuous position like deferred action to apply for employment authorization and denying many other people with formal legal status employment opportunities under the current statutory framework. For example, neither foreign students who enter the United States on a temporary F-1 visa nor their spousal derivatives are qualified to work.¹¹⁴ Similarly, most derivative spouses of H-1B workers are ineligible to apply for work authorization despite their residence in the United States with formal legal

¹⁰⁹ Letter from Douglas W. Elmendorf, Director of Congressional Budget Office to Honorable Thad Cochran, Chairman of the Committee on Appropriations (Jan. 29, 2015), <https://www.cbo.gov/sites/default/files/114th-congress-2015-2016/costestimate/hr240.pdf>; These findings are also consistent with the social science literature pertaining to the economic benefits of granting work authorization to deferred action beneficiaries. See e.g., Roberto G. Gonzales & Angie M. Bautista-Chavez, *Two Years and Counting: Assessing the Growing Power of DACA*, AMERICAN IMMIGRATION COUNCIL, June 16, 2014, <http://www.immigrationpolicy.org/special-reports/two-years-and-counting-assessing-growing-power-daca>; see also TOM K. WONG, ANGELA S. GARCIA, MARISA ABRAJANO, DAVID FITZGERALD, KARTHICK RAMAKRISHNAN, & SALLY LE, CENTER FOR AMERICAN PROGRESS, UNDOCUMENTED NO MORE: A NATIONWIDE ANALYSIS OF DEFERRED ACTION FOR CHILDHOOD ARRIVALS, OR DACA, (2013), <http://cdn.americanprogress.org/wp-content/uploads/2013/09/DACAReportCC-2-1.pdf>.

¹¹⁰ John Miano, *Lawsuit Asks Whether the President Can Give Work Authorization to Anyone He Wants*, CENTER FOR IMMIGRATION STUDIES (Apr. 29, 2015), <http://cis.org/miano/lawsuit-asks-whether-president-can-give-work-authorization-anyone>.

¹¹¹ See, e.g., 8 U.S.C. §1182(a)(5)(A); see also U.S. Dep’t of Labor, *About Foreign Labor Certification*, <https://www.foreignlaborcert.doleta.gov/about.cfm> (last updated May 19, 2014).

¹¹² See *Save Jobs USA v. U.S. Dep’t of Homeland Sec.*, 105 F.Supp.3d 108 (D.D.C. 2015).

¹¹³ *Id.* Alternatively, 85% of the 13,000 commentators to the proposed rule supported the extension of employment authorization to a class of H-4 dependents. Employment Authorization for Certain H-4 Dependent Spouses, 80 FR 10,284 (Feb. 25, 2015) (to be codified at 8 C.F.R. 214, 274a).

¹¹⁴ U.S. Citizenship and Immigration Services, *Students and Employment*, (last visited July 15, 2015), <http://www.uscis.gov/working-united-states/students-and-exchange-visitors/students-and-employment>. (“F-1 students may not work off-campus during the first academic year, but may accept on-campus employment subject to certain conditions and restrictions.”).

status.¹¹⁵ Why should a person released on an order of supervision or granted deferred action have the chance to work legally when these other categories offer no such opportunity to people living in the United States with legal status?

Those who oppose extending work authorization to grantees of prosecutorial discretion might also point to the long wait times faced to qualify for work authorization and lesser delays faced by qualifying individuals who apply for work based on prosecutorial discretion. For example, an asylum seeker may not apply for work authorization until at least 150 days from the date on which her application was filed.¹¹⁶ This asylum work authorization “clock” can also be stopped by officers and judges, enabling even longer wait times for genuine asylum seekers.¹¹⁷ Similarly, a victim of crime who applies for a U-visa may not apply for work authorization until her application is approved by USCIS. Currently, the wait times for a U-visa are more than one year.¹¹⁸ Finally, critics might argue that individuals may be tempted to color their claim or engage in fraud when making a request for prosecutorial discretion in order to receive permission to work. In fact, one theory that drove the old immigration agency, Immigration and Naturalization Service, to create a window of time before an asylum applicant can apply for employment authorization was to reduce fraud, while previously, an applicant could apply for asylum and work authorization simultaneously. Professor David Martin describes the pre-reform abuses: “Here then is the situation that fed on itself and bred abuse. As more and more undocumented aliens received speedy work authorization through this mechanism and yet never had to appear before an INS officer even to establish identity, much less to justify the asylum claim, the word spread about this magical path to genuine, legitimate [employment authorization documents].”¹¹⁹ The asylum changes were preceded by an impassioned debate by policymakers and advocates, some of whom argued that decoupling the asylum application from the employment authorization application would do more harm than good to the asylum seeker who is providing for herself and/or a family.¹²⁰

The above concerns are reasonable to explore, but I am not persuaded that they trump the overarching benefits that flow from employing beneficiaries of prosecutorial discretion. Moreover, the inconsistencies and anomalies in immigration law and policy are pervasive and cannot be cured by eliminating work authorization for select PD grantees. Finally, my own view is that spouses of temporary workers like H-1B holders or students like F-1 students should be authorized to work for many of the economic reasons outlined in the foregoing paragraphs, and because it reduces the power and control that a principal spouse might have over the derivative (a topic well beyond the scope of this Article).

It is difficult to measure the degree to which economics should lead the conversation about whether work permits for prosecutorial discretion beneficiaries are good for society. Notably, there are other societal measures that may be worthy of discussion, but are beyond the scope of this Article. One study

¹¹⁵ Compare 8 C.F.R. § 274a.12(c), Employment Authorization for Certain H-4 Dependent Spouses, 79 FR 26,886 (May 12, 2014) (to be codified at 8 C.F.R. 214, 274a) (seeking to “extend the availability of employment authorization to certain H-4 dependent spouses of principal H-1B nonimmigrants”); U.S. Citizenship and Immigration Services, *Employment Authorization for Certain H-4 Dependent Spouses*, <https://www.uscis.gov/working-united-states/temporary-workers/employment-authorization-certain-h-4-dependent-spouses> (last visited Mar. 2, 2016) (describing the limited categories of derivative spouses that are eligible for work authorization).

¹¹⁶ See, e.g., INA § 208(d)(2) (2015) (“An applicant who is not otherwise eligible for employment authorization shall not be granted such authorization prior to 180 days after the date of filing of the application for asylum.”).

¹¹⁷ See, e.g., JESUS SAUCEDO & DAVID RODRIGUEZ, PENN STATE LAW’S CTR. FOR IMMIGRANTS’ RIGHTS & AMERICAN IMMIGRATION COUNCIL LEGAL ACTION CTR., UP AGAINST THE ASYLUM CLOCK: FIXING THE BROKEN EMPLOYMENT AUTHORIZATION ASYLUM CLOCK 13 (2009), https://pennstatelaw.psu.edu/_file/Immigrants/Asylum_Clock_Paper.pdf.

¹¹⁸ U.S. Citizenship and Immigration Services, *USCIS Processing Time Information*, (last visited Feb. 2, 2016), <https://egov.uscis.gov/cris/processTimesDisplayInit.do>; see also U.S. Citizenship and Immigration Services, *Victims of Criminal Activity: U Nonimmigrant Status*, (Jan. 9, 2014), <http://www.uscis.gov/humanitarian/victims-human-trafficking-other-crimes/victims-criminal-activity-u-nonimmigrant-status/victims-criminal-activity-u-nonimmigrant-status>.

¹¹⁹ David A. Martin, *Making Asylum Policy: The 1994 Reforms*, 70 WASH. L. REV. 725, 735 (1995).

¹²⁰ See *Id.* at 752-55; see also SAUCEDO *supra* note 117, at 7.

demonstrates how a parent's undocumented status can affect the child: "The negative effects have been measured in educational achievement, cognitive development and emotional stability."¹²¹ This same study highlights the benefits of providing a work permit to these parents:

With a work permit as provided for in the DAPA program, parents would have the opportunity to increase income, reduce poverty and thereby improve conditions for children. Indeed, wage growth among low-wage working parents can benefit children's academic and behavioral development by increasing parents' expectations for their children's school success and achievement.¹²²

By removing the fear of deportation and increasing economic opportunity for the parent, a program like DAPA can be life changing and affect future generations. Such research must be part of the discourse surrounding the debate over work permits and prosecutorial discretion.

A. Exploring Solutions

Assuming one agrees with the premise that the statutory structure allows DHS to identify certain unauthorized individuals or classes for work authorization, finding a solution moving forward is a policy question rather than a legal one. Orders of supervision, parole, and deferred action are three forms of prosecutorial discretion that plainly identify a grantee as eligible to apply for work authorization.¹²³ One policy question is whether work authorization should be granted for individuals who receive another type of prosecutorial discretion, such as a motion by ICE to administratively "close" a case that is ultimately approved by the immigration judge. As with a motion to close, and possible administrative closure by the immigration judge, there are several forms of prosecutorial discretion in immigration law for which no independent ground for work authorization is explicit.¹²⁴ Below are some forms of prosecutorial discretion that do not explicitly provide an independent basis for work authorization:

- decision to refrain from issuing, serving, or filing a Notice to Appear;
- decision to cancel a Notice to Appear;
- decision to not stop, question, or arrest an individual;
- decision to not detain an individual or to release an individual already in detention;
- decision to join in a motion to close or terminate a case (with or without regard to whether such motion is ultimately granted by the immigration judge);
- decision to appeal a case;
- decision to stay removal in a case.¹²⁵

¹²¹ ROBERTO SURO, MARCELO M. SUAREZ-OROZCO & STEPHANIE L. CANIZALES, TOMÁS RIVERA POLICY INST., REMOVING INSECURITY: HOW AMERICAN CHILDREN WILL BENEFIT FROM PRESIDENT OBAMA'S EXECUTIVE ACTION ON IMMIGRATION, GLOBALIZATION AND EDUCATION AT UCLA (2015), http://trpi.org/pdfs/research_report.pdf.

¹²² *Id.*

¹²³ Even so, employers have not always accepted an employment authorization document as proof of eligibility. In one case, a noncitizen legally authorized to work in the United States brought a lawsuit against the Northwestern Mutual Life Insurance Company because the company had a policy of hiring only U.S. citizens or those with lawful permanent residence. *See Juarez v. Nw. Mut. Life Ins. Co.*, 69 F.Supp.3d 364, 368 (S.D.N.Y. 2014).

¹²⁴ The term "explicit" here means that the plain language of the statute or regulations identifies a particular prosecutorial discretion grant as a basis for applying for work authorization.

¹²⁵ This list is adapted from the most recent prosecutorial discretion memo, but these factors have been featured in nearly every prosecutorial discretion guideline since 2000. Jeh Charles Johnson Memorandum, *supra* note 3.

Possibly, using 8 U.S.C. § 1324(h)(3), extending work authorization to individuals who benefit from one of the prosecutorial discretion forms listed above is a good policy.¹²⁶ A narrower solution is to enable any person with a prosecutorial discretion grant to apply for work authorization so long as he can show “economic necessity” as is currently required for certain deferred action beneficiaries. This solution expands the pool of people who might be eligible to work but includes a limiting factor by requiring proof of economic necessity. Another possibility is to require any applicant seeking work authorization on the basis of a prosecutorial discretion grant to include documentation of a job offer and statement by a U.S. employer about his unsuccessful efforts to hire an American worker. This kind of statement would not be as labor intensive or costly as labor certification but would address the policy goals of protecting the American workforce. Yet another option is to limit work authorization to individuals who have received an affirmative form of prosecutorial discretion for a period of at least two years. USCIS could implement these policies by creating a regulation or guidance document with specified criteria required for work authorization.

B. Political Challenges to Employment Authorization Applications

In crafting a solution, the politics cannot be ignored. Possibly, the Administration may determine that it lacks the political space to create a broader policy that provides work authorization as an option for a greater pool of prosecutorial discretion grantees, especially in the wake of litigation. Even with the 2012 DACA program, critics opposed to work permits for young people in headlines:

- *Work Permits for Young Immigrants Steal Jobs from Americans*¹²⁷
- *Order for millions of blank work permits, green cards raising amnesty concerns*¹²⁸
- *Obama Renews Work Permits for 520,000 Illegals*¹²⁹

Now, the President’s November programs on deferred action remain on hold because of litigation brought by Texas and twenty-five other states. In reading briefs and listening to the oral arguments, one has to wonder how much the Texas lawsuit has to do with the merit versus politics and the real opposition to a program that permits undocumented people to be employed. The controversy around work permits was well captured during oral arguments before the Fifth Circuit Court of Appeals on July 10 at which Judge Carolyn D. King asked Texas solicitor general Scott Keller, “[t]he state’s position is, what you object to here, is the granting of work authorization to these individuals. You don’t want them to have work authorization?”¹³⁰ Judge King did not receive a clear response to her question but her question and Keller’s lack of objection to her framing speaks volumes to the role employment authorization in the debate around the President’s executive actions.

¹²⁶ It may be legitimate to argue that the existing regulatory framework provides any person with a prosecutorial discretion grant to apply for work authorization—by illustrating for example, that 8 C.F.R. § 274.12(c)(14) reserved for those granted “deferred action” really means “any action that is deferred.” However, this has not been how DHS has interpreted deferred action or the accompanying regulations that authorize work. To illustrate, deferred action is just one kind of action (among more than one dozen) listed in a medley of memoranda by the immigration agency on prosecutorial discretion. The author’s view is that the agency’s choice to limit work authorization to only qualifying individuals in a particular category of prosecutorial discretion (such as deferred action) is not unreasonable as a matter of law.

¹²⁷ Roy Beck, *Work Permits for Young Immigrants Steal Jobs From Americans*, U.S. NEWS & WORLD PARTY, June 19, 2012, <http://www.usnews.com/debate-club/is-obama-right-to-grant-young-illegal-immigrants-work-permits/work-permits-for-young-immigrants-steal-jobs-from-americans>.

¹²⁸ Kenric Ward, *Order for Millions of Blank Work Permits, Green Cards Raising Amnesty Concern*, FOXNEWS, Oct. 21, 2014, <http://www.foxnews.com/politics/2014/10/21/order-for-millions-blank-work-permits-green-cards-raising-amnesty-concerns/>.

¹²⁹ Neil Munro, *Obama Renews Work Permits for 520,000 Illegals*, DAILYCALLER, June 7, 2014, <http://dailycaller.com/2014/06/07/obama-renews-work-permits-for-520000-illegals/>.

¹³⁰ Recording of Oral Argument at 1:35:12, *State of Texas, et al. v. USA, et al.*, No. 15-40238 (5th Cir. July 10, 2015), http://www.ca5.uscourts.gov/OralArgRecordings/15/15-40238_7-10-2015.mp3.

C. Operational Challenges to Employment Authorization Applications

Co-existing with the political challenges are the operational challenges DHS and USCIS in particular may face in attempting to process deferred action requests and work permit applications in a timely manner. One illustration of this challenge can be found in the sheer number of work authorization applications coded as “pending” during 2014 in the data set analyzed for this Article. By regulation, USCIS is required to process most work authorization applications within a 90-day time period and, if failing to do so, issue “interim employment authorization” to affected applicants.¹³¹ And yet, many qualifying applicants have not received an interim work authorization as required by the regulation and in some cases, have been unable to work because they lack the evidence required by their employers to work in the United States.¹³² A review of the 2015 Annual Report by the DHS Citizenship and Immigration Services Ombudsman reveals that USCIS adjudicates the majority of employment authorization application within the 90-day timeframe, but for the thousands of individuals that face delays, this can mean a loss of employment to the applicant and negative consequences for the employer.¹³³ The specific delay faced by DACA recipients was also reported by journalist David Noriega who obtained records from USCIS:

Thousands of undocumented immigrants who gained work permits as part of an Obama administration effort to shield young people from deportation are suddenly losing their ability to work legally as the federal government struggles to renew their authorizations on time. Exactly 11,028 young immigrants have had their Deferred Action for Childhood Arrivals (DACA) status and work permits expire in spite of having applied on time.¹³⁴

The processing delays associated within the immigration system and DACA program specifically raise important questions about whether USCIS would have the resources and ability to adequately process work authorization applications for noncitizens granted any form of prosecutorial discretion.

V. CONCLUSION

This Article began with a description of the variations of prosecutorial discretion for which employment is authorized by statute and regulations, and clarified the relationship between prosecutorial discretion and work authorization. The Article highlighted data sets of select work authorization applications processed by USCIS on the basis of a grant of the following three forms of prosecutorial discretion: deferred action, order of supervision, and parole. The data reveals that the agency has a significant history of processing and granting work permits on the basis of prosecutorial discretion. At the same time, the data uncovers a spike in work authorization applications based on non-DACA deferred action in 2014 as well as a lower rate of approvals in 2014 in contrast to the overall average grant rate between 1990 and 2014. Finally, this Article showcases the economic arguments in favor of extending work authorization to prosecutorial

¹³¹ 8 C.F.R. § 274a.13(d) (“USCIS will adjudicate the application within 90 days from the date of receipt of the application...Failure to complete the adjudication within 90 days will result in the grant of an employment authorization document for a period not to exceed 240 days.”).

¹³² Complaint at 3, Northwest Immigrant Rights Project v. U.S. Citizenship and Immigration Services et al., 2015 WL 3392733 (W.D. Wash. 2015) (No. 2:15-cv-00813).

¹³³ See CITIZENSHIP AND IMMIGRATION SERVICES OMBUDSMAN, DEP’T OF HOMELAND SECURITY, ANNUAL REPORT 2015 48-50 (2015),

http://www.dhs.gov/sites/default/files/publications/Final%202015%20CISOMB%20Annual%20Report_0.pdf; see also Shoba Sivaprasad Wadhia, *Work Authorization for Dreamers: A Week of Wonders and Woes*, IMMIGRATIONPROF BLOG (July 17, 2015), <http://lawprofessors.typepad.com/immigration/2015/07/work-authorization-for-dreamers-a-week-of-wonders-and-woes-by-shoba-sivaprasad-wadhia.html>.

¹³⁴ David Noriega, *Thousands of Dreamers are Losing Their Work Permits*, BUZZFEED, Apr. 22, 2015, <http://www.buzzfeed.com/davidnoriega/thousands-shielded-from-deportation-losing-work-permits>.

discretion recipients beyond that which is explicated in the regulations and the political landscape under which these policy questions should be raised.

Millions of unauthorized individuals are living in the United States today with a form of prosecutorial discretion because they are not a priority for enforcement and removal. But this discretion lacks the legitimacy of a comprehensive legislative solution and may (as we have seen with DAPA) result in a robust role for the courts and public skepticism about whether our government is following the rule of law. Many beneficiaries protected through prosecutorial discretion could be eligible for legal status and work authorization in the future if Congress finds a legislative solution. While the scope of this Article is focused on the relationship between work authorization and prosecutorial discretion, the importance of a legislative solution for the millions of people living in legal limbo remains critical. Even the best-looking policy for authorizing individuals with prosecutorial discretion for employment cannot replace the need for legislative reform.

VI. APPENDIX

Table of Abbreviations

Administrative Procedure Act – APA
 California Service Center – CSC
 Code of Federal Regulations – CFR
 Congressional Budget Office – CBO
 Convention Against Torture – CAT
 Customs and Border Protection – CBP
 Deferred Action - DA
 Deferred Action for Childhood Arrivals – DACA
 Deferred Action for Parents of Americans and Lawful Permanent Residents – DAPA
 Department of Homeland Security – DHS
 Employment Authorization Document – EAD
 Executive Office for Immigration Review – EOIR
 Freedom of Information Act – FOIA
 Immigration and Customs Enforcement - ICE
 Immigration and Nationality Act – INA
 Immigration and Naturalization Service – INS
 Joint Committee on Taxation – JCT
 National Benefits Center – MSC
 Nebraska Service Center – NSC
 Office of Legal Counsel – OLC
 Order of Supervision – OSUP
 Parole in Place – PIP
 Post Order Custody Review – POCR
 Prosecutorial Discretion – PD
 Texas Service Center – TSC
 United States Code – U.S.C.
 United States Citizenship and Immigration Services - USCIS
 Vermont Service Center – VSC
 Violence Against Women Act – VAWA



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The Role of Prosecutorial Discretion in Immigration Law

SHOBA SIVAPRASAD WADHIA[†]

I. INTRODUCTION

The year was 2002. Joy sat motionless at the corner of my desk; a glass vase of flowers wrapped in thick plastic and tagged with a card from two brothers whose journey spanned from South Asia to the United States. Imprinted in the brothers' file was an impressive list of accolades that overshadowed a history of transgressions with a credit card. "My" two brothers were resilient and over many years built many things—a business, families, and friendships along the East coast. They won the praise of a local Congresswoman and made me smile often. Their case was not a "win" in the sense of gaining a formal immigration status like a green card or work visa. Instead, the case was a success because an immigration officer told them (and me) that limbo in the United States was preferable to deportation to a land where they would feel like strangers. The officer's decision to place their case on hold was a favorable exercise of prosecutorial discretion.

The concept of "prosecutorial discretion" appears in the immigration

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statute, agency memoranda, and court decisions about select immigration enforcement decisions. Prosecutorial discretion extends to decisions about which offenses or populations to target; whom to stop, interrogate, and arrest; whether to detain or to release a noncitizen; whether to initiate removal proceedings; whether to execute a removal order; and various other decisions. Similar to the criminal context, prosecutorial discretion in the immigration context is an important tool for achieving cost-effective law enforcement and relief for individuals who present desirable qualities or humanitarian circumstances. Unlike the criminal system, prosecutorial discretion in the immigration system is a civil matter, and it is exercised with minimal safeguards or incentives.

While many scholars have written articles about undocumented immigration, restrictions on immigration, and immigrants' rights, there is a dearth of literature on the role of prosecutorial discretion in immigration law. This article describes the theory, history, and current standard of prosecutorial discretion in immigration matters. This article argues that prosecutorial discretion is both a welcome and a necessary component of immigration law. Drawing important and relevant lessons from the criminal and administrative law, this article shows why the existing model of prosecutorial discretion in immigration affairs is inadequate and, in some instances, misguided. The damaging impact of arbitrary immigration enforcement actions on the daily lives of undocumented noncitizens and their families is striking.¹ This article advocates for a bolder standard on prosecutorial discretion and greater mechanisms for oversight and accountability when such standards are ignored. Moreover, this article recommends that DHS recognize select acts of prosecutorial discretion as a substantive rule, where the actions operate as a de facto benefit to individuals who satisfy an identifiable set of criteria and favorable equities. This article is divided into five sections: 1) Legal Background and History, 2) Lessons from Criminal Law, 3) Lessons from Administrative Law, 4) Limitations of Prosecutorial Discretion, and 5) Recommendations.

The theory behind prosecutorial discretion is seemingly simple and two-fold. The first theory is monetary. Because the government has limited resources to spend, permitting the agency and its officers to refrain from asserting the full scope of their enforcement authority against particular populations or individuals is cost saving and arguably allows the agency to focus their work on the “truly” hazardous.² The second theory is

¹ See Stephen H. Legomsky, *Portraits of the Undocumented Immigrant: Epiphany through Dialectic*, 44 GEORGIA L. REV. 65 (2009).

² As described by the late Maurice Roberts more than thirty years ago: “In the fiscal year ending June 30, 1974, the Service apprehended a record 788,000 deportable aliens and it has estimated that the

humanitarian. Some individuals who are in technical violation of the law may nonetheless have redeeming qualities such as a loving marriage, continued employment as an office manager, status as a mother of three, and faithfulness to prayer and the payment of taxes. Often, these humanitarian considerations are weighed against moral deservedness, namely the gravity of a person's immigration transgression. Allowing such persons to live free from apprehension, detention, or removal is in some ways a reward for their good deeds and in part a judgment by society that some people are morally desirable and more likely to succeed in the future.

This article is limited to an analysis of prosecutorial discretion by immigration personnel employed by DHS, including but not limited to officers, attorneys and supervisors. Beyond the scope of this article is a scrutiny of the discretion exercised by administrative judges under the Department of Justice's Executive Office of Immigration Review in the context of formal applications for relief from removal. Similarly, this article does not address the discretion exercised by immigration officers as part of the formal adjudicatory process. Furthermore, although I attempt to distill prosecutorial discretion in the criminal and administrative contexts, the analysis is by no means exhaustive. Finally, while the grant of "deferred action" status represents just one among many exercises of prosecutorial discretion by the immigration agency, the author devotes disproportionate detail to deferred action for two reasons. First, deferred action serves as a good model from which to discuss prosecutorial discretion and analyze with administrative and criminal law. Second, practically speaking, focusing on deferred action enables the author to describe the history and evolution of prosecutorial discretion in a more fluid and chronological manner.

As to the terminology, the terms "deferred action" and "nonpriority" statuses are used interchangeably throughout this article. Moreover, unless otherwise indicated the term "Department of Homeland Security" will be referred to by its full name or by the abbreviation "DHS." Also, the term "1996 immigration laws" will be used to refer to amendments made to the Immigration and Nationality Act in 1996, and specifically, the Illegal Immigration Reform and Immigrant Responsibility Act (IIRAIRA) and the Antiterrorism and Effective Death Penalty Act (AEDPA).

total number of illegal aliens 'is possibly as great as 10 or 12 million.' While the accuracy of these high estimates has been questioned, it is clear that the Service has identified many more aliens here unlawfully than it has proceeded against. In determining which illegal aliens should be singled out for the initiation of deportation proceedings and which should be permitted to remain unmolested, for how long they should be permitted to remain and under what conditions, the Service exercises what is tantamount to prosecutorial discretion." Maurice Roberts, *The Exercise of Administrative Discretion Under Immigration Laws*, 13 SAN DIEGO L. REV. 144, 146 (1975-76).

II. LEGAL BACKGROUND AND HISTORY

Prosecutorial discretion is an awesome power that affects the fate of more noncitizens than any other government action. As defined by the former Immigration and Naturalization Service (INS) in 2000, “[p]rosecutorial discretion is the authority that every law enforcement agency has to decide whether to exercise its enforcement powers against someone.”³ Prosecutorial discretion is applied at both a categorical and an individual level.⁴ Beneficiaries of prosecutorial discretion avoid removal and in some cases are eligible to apply for work authorization. One of the most common forms of prosecutorial discretion is “deferred action” and is discussed in greater detail below. Neither the immigration statute nor the regulations contain eligibility criteria for seeking a favorable grant of prosecutorial discretion. Similarly, unlike most formal applications for discretionary forms of relief from removal, acts of prosecutorial discretion have no written application form. Prosecutorial discretion can be exercised in a wide array of situations.⁵

The use of prosecutorial discretion and the “nonpriority program” specifically was revealed by INS in 1975 as a consequence of a lawsuit involving John Lennon and Yoko Ono.⁶ Before this time, the nonpriority program was a secret operation of the INS.⁷ Leon Wildes represented the

³ U.S. DEP’T OF JUSTICE, IMMIGRATION AND NATURALIZATION SERVICE FACT SHEET ON PROSECUTORIAL DISCRETION GUIDELINES (2000). See also Memorandum from Doris Meissner, Commissioner of Immigration and Naturalization Service, on Exercising Prosecutorial Discretion (Nov. 17, 2000), available at <http://drop.io/iceprosecutorialdiscretion>.

⁴ See T. ALEXANDER ALEINIKOFF, DAVID A. MARTIN, HIROSHI MOTOMURA & MARYELLEN FULLERTON, IMMIGRATION AND CITIZENSHIP: PROCESS AND POLICY 776 (6th ed. 2008) (describing that prosecutorial discretion occurs at both macro and micro levels, and greatly influences which noncitizens are likely to be removed).

⁵ As summarized by the Government Accountability Office in 2007, “...ICE officers exercise discretion when they decide whom to stop, question, and arrest; how to initiate removal; whether to grant voluntary departure (whereby aliens agree to waive their rights to a hearing and are escorted out of the United States to their home countries by ICE officers); and whether to detain an alien in custody. ...[O]nce an ICE officer has made a decision to pursue removal, ICE attorneys exercise discretion when they decide whether and how to settle or dismiss a removal proceeding or to appeal a decision rendered by an immigration judge.” See U.S. GOV’T ACCOUNTABILITY OFFICE, REPORT TO CONGRESSIONAL REQUESTERS, IMMIGRATION ENFORCEMENT: ICE COULD IMPROVE CONTROLS TO HELP GUIDE ALIEN REMOVAL DECISION MAKING 2-3 (2007), available at <http://www.gao.gov/new.items/d0867.pdf>.

⁶ Leon Wildes, *The Operations Instructions of the Immigration Service: Internal Guides or Binding Rules?*, 17 SAN DIEGO L. REV. 99, 101 (1979-80) [hereinafter Wildes, *Operations Instructions*]. See also *Lennon v. Richardson*, 378 F. Supp. 39 (S.D.N.Y. 1974); See also Leon Wildes, *The United States Immigration Service v. John Lennon: The Cultural Lag*, 40 BROOK. L. REV. 279 (1973-74) [hereinafter Wildes, *The Cultural Lag*].

⁷ See Leon Wildes, *The Nonpriority Program of the Immigration and Naturalization Service Goes Public: The Litigative Use of the Freedom of Information Act*, 14 SAN DIEGO L. REV. 42 (1976-77) [hereinafter Wildes, *Nonpriority Goes Public*]. See also BILL ONG HING, *DEFINING AMERICA THROUGH IMMIGRATION POLICY* 226 (2004).

couple and has since written extensively about the nonpriority program.⁸ As described by Wildes, John Lennon entered the United States in the summer of 1971 as a visitor and was thereafter placed in deportation proceedings for overstaying his visa. Lennon and his wife came to the United States in order to assume custody of Kyoko, Yoko Ono's daughter from a previous marriage.⁹ While Lennon and Ono were awarded custody over Kyoko by the family court, their situation was complicated by the fact that the child's father had kidnapped Kyoko and could not be found.¹⁰ Because he believed he was charged with deportation for political reasons, Lennon requested for nonpriority status, among other forms of relief.¹¹ Through his attorney, Lennon spent more than one year trying to gather information from INS about the nonpriority status program and related procedures.¹² At the time, INS contended that data on the nonpriority status program was "not compiled."¹³ Even when Lennon motioned his immigration judge to depose a member of the Government who was informed about the nonpriority status program, the immigration judge denied his request.¹⁴ Ultimately, Lennon was able to obtain information through a Freedom Of Information Act (FOIA) action.¹⁵ Specifically, information about the nonpriority program was available under the INS's "Operations Instructions" which, until the Lennon lawsuit, remained

⁸ See, e.g., Wildes, *Nonpriority Goes Public*, *supra* note 7; Wildes, *Operations Instructions*, *supra* note 6; Leon Wildes, *The Deferred Action Program of the Bureau of Citizenship and Immigration Services: A Possible Remedy for Impossible Immigration Cases*, 41 SAN DIEGO L. REV. 819 (2004) [hereinafter Wildes, *Deferred Action*]; Wildes, *The Cultural Lag*, *supra* note 6; Leon Wildes, *The Nonpriority Program of the Immigration and Naturalization Service - A Measure of the Attorney General's Concern for Aliens, Part I*, 53 INTERPRETER RELEASES 25 (January 26, 1976) [hereinafter Wildes, *Nonpriority Part I*]; Leon Wildes, *The Nonpriority Program of the Immigration and Naturalization Service - A Measure of the Attorney General's Concern for Aliens, Part II*, 53 INTERPRETER RELEASES 33 (January 30, 1976) [hereinafter Wildes, *Nonpriority Part II*].

⁹ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 44–45. See also Lennon v. INS, 527 F. 2d 187, 189 (2nd Cir 1975); Wildes, *The Cultural Lag*, *supra* note 6; Wildes, *Nonpriority Part I*, *supra* note 8; Wildes, *Nonpriority Part II*, *supra* note 8.

¹⁰ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 45; Wildes, *The Cultural Lag*, *supra* note 6; Wildes, *Nonpriority Part I*, *supra* note 8; Wildes, *Nonpriority Part II*, *supra* note 8.

¹¹ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 45. See also Lennon v. INS, 527 F.2d 187, 191 (2d Cir. 1975); Wildes, *The Cultural Lag*, *supra* note 6; Wildes, *Nonpriority Part I*, *supra* note 8; Wildes, *Nonpriority Part II*, *supra* note 8.

¹² Wildes, *Nonpriority Goes Public*, *supra* note 7, at 45. See also Wildes, *Nonpriority Part I*, *supra* note 8; Wildes, *Nonpriority Part II*, *supra* note 8.

¹³ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 45. See also Wildes, *The Cultural Lag*, *supra* note 6; Wildes, *Nonpriority Part I*, *supra* note 8; Wildes, *Nonpriority Part II*, *supra* note 8.

¹⁴ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 46.

¹⁵ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 49 (The distinguishing feature of "private" information was the so-called "blue sheets" of the officer's manual used to identify the classified and internal policies of INS.). See also Lennon v. U.S., 378 F. Supp. at 42 n.11 (S.D.N.Y. 1974).

private information on the INS “Blue Sheets.”¹⁶ As a consequence of the FOIA Action, and despite the numerous statutory exceptions to the publication of information, INS migrated information about the nonpriority program from the INS “Blue Sheets” to the published “White Sheets,” signifying the newly public nature and existence of the program.¹⁷

A. The Evolution of Deferred Action: 1975-1997

In 1975, following the Lennon case, the INS issued guidance on deferred action under its “Operations Instructions.” The governing section stated: “(ii) Deferred action. In every case where the district director determines that adverse action would be unconscionable because of the existence of appealing humanitarian factors, he shall recommend consideration for deferred action category.”¹⁸ The Operations Instructions also listed factors that should be considered in determining whether a case should be designated for deferred action:

When determining whether a case should be recommended for deferred action category, consideration should include the following: (1) advanced or tender age; (2) many years' presence in the United States; (3) physical or mental condition requiring care or treatment in the United States; (4) family situation in the United States effect of expulsion; (5) criminal, immoral or subversive activities or affiliations recent conduct. If the district director's recommendation is approved by the regional commissioner the alien shall be notified that no action will be taken by the Service to disturb his immigration status, or that his departure from the United States has been deferred indefinitely, whichever is appropriate.¹⁹

While John Lennon ultimately achieved lawful permanent resident “green card” status, therefore mooted out the decision of whether or not to grant him nonpriority status, his related Second Circuit case was the first to discuss nonpriority status, articulating it as an “informal administrative stay of deportation.”²⁰ One year after the Lennon decision, the Fifth

¹⁶ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 46–47.

¹⁷ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 47. See also Wildes, *Deferred Action*, *supra* note 8, at 820.

¹⁸ (LEGACY) IMMIGRATION AND NATURALIZATION SERVICE, OPERATIONS INSTRUCTIONS, O.I. § 103.1(a)(1)(ii) (1975).

¹⁹ *Id.*

²⁰ *Lennon v. INS*, 527 F.2d 187, 191 n.7 (2d Cir. 1975); Of note, John Lennon was approved for

Circuit construed nonpriority status as a program of pure administrative convenience, concluding that INS has the authority to operate deferred action for its own convenience without having to formalize it into a body of law.²¹ The Fifth Circuit's "convenience-only" definition of the nonpriority program ignored the overriding humanitarian grounds upon which many of the cases were ultimately granted.²² In contrast to the Fifth Circuit, the Eighth Circuit stayed deportation in two cases in order to afford the petitioners the opportunity to apply for deferred action pursuant to the Operations Instructions.²³ Notably, the Eighth Circuit cited to humanitarian considerations as a foundation upon which INS could grant the petitioners deferred action status.²⁴ According to the Eighth Circuit in *David v. INS*, "[w]e think there is presented here a substantial basis upon which a district director could place petitioner in a "deferred action category" allowing him to remain in this country on humanitarian grounds."²⁵

The Eighth Circuit's conclusion is significant to the extent that it contains an implication that applying for nonpriority or deferred action status is a "right."²⁶ Building upon the Eighth Circuit, the Ninth Circuit in *Nicholas v. INS* held that the Operations Instruction on deferred action operated like a substantive rule.²⁷ Turning to the language of the Operations Instruction, the court in *Nicholas* concluded:

Three points become readily apparent upon examination: (1) The sole basis for granting relief is the presence of humanitarian factors; (2) The Instruction is directive in nature; and (3) The effect of such relief upon a deportation order is to defer it indefinitely....It is obvious that this procedure exists out of consideration for the convenience of the petitioner, and not that of the INS. In this aspect, it far more closely resembles a substantive provision for

nonpriority status one week before the circuit decision, on September 23, 1975. Wildes, *Operations Instructions*, *supra* note 6, at n.10. See also Wildes, *Deferred Action*, *supra* note 8, at 821 n.10.

²¹ Soon Bok Yoon v. INS, 538 F.2d 1211, 1211 (5th Cir. 1976). See also Wildes, *Operations Instructions*, *supra* note 6, at 102.

²² Wildes, *Operations Instructions*, *supra* note 6, at 102.

²³ See Vergel v. INS, 536 F.2d 755 (8th Cir. 1976); David v. INS, 548 F.2d 219 (8th Cir. 1977).

²⁴ Vergel, 536 F.2d 755; David, 548 F.2d 219.

²⁴ Vergel, 536 F.2d 755; David, 548 F.2d 219.

²⁵ David, 548 F.2d at 223.

²⁶ Wildes, *Operations Instructions*, *supra* note 6, at 103–04.

²⁷ *Id.* at 105 (citing *Nicholas v. INS*, 590 F.2d 802 (9th Cir. 1979)). See also Wildes, *Deferred Action*, *supra* note 8, at 821.

relief than an internal procedural guideline.²⁸

The implications of treating deferred action as a substantive rule are significant and analyzed in greater detail later in the article.

Leon Wildes examined 1,843 nonpriority cases approved by the Immigration and Naturalization Service (INS) through December 31, 1974.²⁹ Wildes found that humanitarian considerations (as opposed to the nature of the individual's deportation ground or activity which gave rise to such a ground) played an overriding role in an immigration officer's decision to grant or deny nonpriority status.³⁰ Wildes found that noncitizens who risked being separated from family, were elderly, young, mentally disabled or incompetent were granted nonpriority status in high numbers.³¹ In profiling a handful of the more than 1,800 cases, Wildes made the somewhat ironic point that many of the noncitizens were granted nonpriority status on the very same ground for which they were deportable.³² This was especially true of those deemed mentally incompetent or infirm.³³ Within these 1,843 cases, Wildes found that more than 100 cases involved noncitizens with previous drug convictions ranging from misdemeanor offenses to more serious ones such as the trafficking of cocaine and heroin.³⁴ Notably, Wildes found that the humanitarian factors utilized in the so-called "drug cases" were largely similar to the consideration applied to the remaining case types.³⁵

The Operations Instruction on deferred action has been amended over the years. Importantly, following the *Nicholas* decision, INS amended the Operations Instruction to affirmatively state that grants of deferred action status were an administrative choice by the agency and in no way an "entitlement" to the noncitizen.³⁶ The INS's decision to amend the

²⁸ *Nicholas v. INS*, 590 F.2d at 806–07.

²⁹ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 51. See also Wildes, *Nonpriority Part I*, *supra* note 8, at 29.

³⁰ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 52. See also Wildes, *Nonpriority Part I*, *supra* note 8, at 31; see generally Wildes, *Nonpriority Part II*, *supra* note 8.

³¹ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 53. See also Wildes, *Nonpriority Part II*, *supra* note 8.

³² Wildes, *Nonpriority Goes Public*, *supra* note 7, at 57; See also Wildes, *Nonpriority Part II*, *supra* note 8, at 37.

³³ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 57. See also Wildes, *Nonpriority Part II*, *supra* note 8, at 36–37.

³⁴ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 61. See also Wildes, *Nonpriority Part II*, *supra* note 8, at 40.

³⁵ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 62. See also Wildes, *Nonpriority Part II*, *supra* note 8, at 40.

³⁶ Wildes, *Deferred Action*, *supra* note 8, at 822 (citing to ALEINIKOFF, *supra* note 4, at 769). Notably, many courts have concluded that the Operations Instruction is an intra-agency guideline that

Operations Instruction after *Nicholas* was most likely connected to the *Nicholas* court's compassion-based theory for upholding judicial review. By recasting the Operations Instruction as a measure of pure administrative convenience, the agency was able to avoid future judicial review.³⁷ In 1996, the Operations Instruction was moved into a new publication titled "Standard Operating Procedures."³⁸ The Operations Instruction was eventually rescinded in 1997 through a memorandum issued by former INS Acting Executive Associate Commissioner Paul Virtue.³⁹ Titled "Cancellation of Operations Instructions," the memo identified a series of Operations Instructions that were rescinded as a consequence of the 1996 immigration laws.⁴⁰ Virtue recalls that in cancelling the Operations Instructions, there was no intention by the agency to eliminate deferred action relief.⁴¹ Rather, the purpose of cancelling the rule was "housekeeping" related-- there was an internal effort to take the Operations Instructions and place them into policy manuals like the Standard Operating Procedures manual.⁴²

Consistent with the INS's intent, even after the Operations Instruction on deferred action was removed, the factors outlined in the Instruction for "deferred action" continued to be utilized. As described in a leading treatise on immigration law and procedure, "[w]hile the deferred action program is still an internal administrative arrangement, with no provision for an application or participation by the alien, it is appropriate for the alien or the alien's counsel to call to the attention of the district director the circumstances of a particular case, with appropriate documentation, and to

confers no substantive benefit on aliens seeking inclusion in the deferred action category. *See De Romero v. Smith*, 773 F.2d 1021 (9th Cir. 1985); *Pasquini v. Morris*, 700 F.2d 658, 661 (11th Cir.1983); *Soon Bok Yoon v. INS*, 538 F.2d 1211, 1213 (5th Cir. 1976); *Lennon v. INS*, 527 F.2d 187 (2d. Cir. 1975); *Wan Chung Wen v. Ferro*, 543 F. Supp. 1016, 1017–18 (D.N.Y. 1982); *Zacharakis v. Howerton*, 517 F. Supp. 1026, 1027–28 (D.Fla. 1981). *See Velasco-Gutierrez v. Crossland*, 732 F.2d 792, 798 (10th Cir. 1984). *See also Siverts v. Craig*, 602 F. Supp. 50, 53 (D.Haw. 1985) (construing 1981 instruction).

³⁷ Email from Stephen Legomsky, John S. Lehmann University Professor, Washington University School of Law in St. Louis, to Shoba Sivaprasad Wadhia (August 1, 2009) (on file with author).

³⁸ ALEINIKOFF, *supra* note 4, at 780. *See also* Memorandum from Doris Meissner, *supra* note 3, at 1 n.1 (referencing the Standard Operating Procedures that pertain to deferred action cases).

³⁹ Memorandum from Paul W. Virtue, Acting Executive Associate Commissioner, Immigration and Naturalization Service, on INS Cancellation of Operations Instructions (June 27, 1997) (available at 2 Bender's Immigr. Bull. 867).

⁴⁰ *Id.*

⁴¹ Interview with Paul Virtue, former Executive Associate Commissioner, Immigration and Naturalization Service, in Washington, D.C. (July 23, 2009).

⁴² *Id.* It was Virtue's vision that the Standard Operating Procedures manual would be made publicly available and operate with subregulatory authority like the Department of State's Foreign Affairs Manual.

request that consideration be given to placing it in deferred action status.”⁴³ The treatise’s inclusion of the description and process for applying deferred action underscores the agency’s recognition of deferred action even after the O.I. was formally rescinded.

B. The 1996 Immigration Laws and Prosecutorial Discretion

Legislative amendments to the Immigration and Nationality Act in 1996 heightened the need for renewed guidance on prosecutorial discretion.⁴⁴ For example, the 1996 immigration laws eliminated opportunities for certain individuals deemed “arriving” or those subject to removal based on certain activities classified as criminal or terrorist-related to apply for removal relief, or if held in custody by immigration, to submit a request to an immigration judge for release on their own or on a bond.⁴⁵ Individuals classified into these special categories are incarcerated mandatorily without a bond hearing.⁴⁶ The 1996 laws also expanded the list of activities that could be classified as an “aggravated felony” and applied this new definition retroactively.⁴⁷ Additionally, the 1996 immigration laws meaningfully limited individual review in a federal court by placing statutory bars to review on certain noncitizens with criminal histories or with denials from the lower court that were related to the statutory bars on asylum and discretion, among others.⁴⁸ In a letter by then Assistant Attorney General Robert Raben to Massachusetts Congressman Barney Frank date January 19, 2000, Raben admitted:

The IIRAIRA eliminated both the possibility of relief from deportation and the possibility of bond for many criminal and other aliens placed in deportation and/or removal proceedings who previously would have been eligible for relief. Consequently, the IIRAIRA rendered the exercise of prosecutorial discretion by the INS the only means for averting the extreme hardship associated with certain

⁴³ CHARLES GORDON, STANLEY MAILMAN, & STEPHEN YALE-LOEHR, IMMIGRATION LAW AND PROCEDURE § 72.03(2)(h) (2009).

⁴⁴ See Illegal Immigration Reform and Immigrant Responsibility Act of 1996 (IIRAIRA), 8 U.S.C.S. § 1103 (2008); Anti-Terrorism and Effective Death Penalty Act of 1996 (AEDPA), 8 U.S.C.C. § 1105 (2006).

⁴⁵ See IIRAIRA, 8 U.S.C.S. § 1103 (2008); Immigration and Nationality Act (INA) §§ 235(b), 236(c), 8 U.S.C. §§ 1324(a), 1185 (2006).

⁴⁶ See IIRAIRA, 8 U.S.C.S. § 1103 (2008); INA §§ 235(b), 236(c), 8 U.S.C. §§ 1324(a), 1185 (2006).

⁴⁷ See IIRAIRA, 8 U.S.C.S. § 1103 (2008); AEDPA, 8 U.S.C.C. § 1105 (2006).

⁴⁸ Letter from Robert Raben, Assistant Attorney General, to Rep. Barney Frank, U.S. H.R., on Use of Prosecutorial Discretion to Avoid Harsh Consequences of IIRAIRA (Jan. 19, 2000).

deportation and/or removal cases.⁴⁹

Recognizing the limits of his own agency's discretion Raben stated, "Unfortunately, prosecutorial discretion guidelines—without carefully drafted substantive amendments to the INA remain an inadequate tool to alleviate the excessively harsh consequences of the 1996 amendments in truly exceptional cases."⁵⁰

The literature criticizing the 1996 immigration laws, and its consequences, is plentiful.⁵¹ This article does not seek to rehash this critique here but instead highlights some of the provisions for purposes of analyzing it against the principle of prosecutorial discretion. A modified transcript from a 2001 symposium on immigration and criminal law hosted by the Association of the Bar of the City of New York, reveals the complexity and controversy of the 1996 IIRAIRA provisions and its relationship with prosecutorial discretion.⁵² Former INS General Counsel Owen ("Bo") Cooper highlighted the fine line between the limits of prosecutorial discretion, as well as the politics of select Members of Congress who both created stern restrictions to the immigration statute, and then held INS accountable for failing to refrain from enforcing them against individuals who presented compelling equities.⁵³

⁴⁹ *Id.*

⁵⁰ *Id.* Arguably, one provision created by IIRAIRA that was partially improved by Congress years later with the passage of the REAL ID Act of 2005, 8 U.S.C.S § 1101 (2008), corresponds to judicial review. Congress created a subsection 242(a)(2)(D) titled "Judicial Review of Certain Legal Claims" which now reads: "Nothing in subparagraph (B) or (C), or in any other provision of this Act (other than this section) which limits or eliminates judicial review, shall be construed as precluding review of constitutional claims or questions of law raised upon a petition for review filed with an appropriate court of appeals in accordance with this section." See INA § 242(a)(2)(D), 8 U.S.C. § 1252(a)(2)(D)(2006). While this change opened the door for certain decisions previously barred under IIRAIRA to be reviewed in federal court if the decision raised a legal question, the majority of restrictions created by IIRAIRA remains.

⁵¹ See, e.g., Daniel Kanstroom, *Deportation, Social Control, and Punishment: Some Thoughts About Why Hard Laws Make Bad Cases*, 113 HARV. L. REV. 1890 (2000); Nancy Morawetz, *Understanding the Impact of the 1996 Deportation Laws and the Limited Scope of Proposed Reforms*, 113 HARV. L. REV. 1936 (2000); Shoba Sivaprasad Wadhia, *The Policy and Politics of Immigrant Rights*, 16 TEMP. POL. & CIV. RTS. L. REV. 387 (2007).

⁵² Symposium, *Immigration and Criminal Law*, 4 N.Y. CITY L. REV. 9 (2001).

⁵³ *Id.* at 31. Meanwhile, Massachusetts Congressman Barney Frank shared his perspective on the politics of IIRAIRA and its relationship to INS's prosecutorial power: "What Congress said was 'We are going to take away all of your discretion.' The bill that passed purported to take away prosecutorial discretion. The purpose of the bill was to say to INS 'Deport them all.' It is none of your business to say, 'Stay here, or not to stay here. Get rid of all of them.' The INS should have said 'You can't make us do that.' The INS should have said 'We always have prosecutorial discretion.' No law enforcement body in the history of the world has ever enforced every law against everybody. But in the early stages the INS was terrified and they did go and scoop up some people whom no national person would have scooped up because they were afraid of Congress yelling at them. Next, the horror stories came out. The first reaction, as Mr. Cooper said, was that some of the members of Congress who supported a bill which had the very purpose of telling the INS not to use its discretion, then criticized the INS for not

In a written response to statutory changes made to the Immigration and Nationality Act by Congress in 1996, Bo Cooper issued a memorandum to former INS Commissioner Doris Meissner.⁵⁴ The purpose of the Cooper memo was to enable INS to study the use of prosecutorial discretion and provide a legal foundation for any guidance produced by INS in the future.⁵⁵ The memo itself reads like a short lesson plan, describing the principle, purpose, and limitations of prosecutorial discretion, and also identifying criminal law jurisprudence as a leading source.⁵⁶ The Cooper memo explains that, while immigration officers are not “prosecutors” in the literal sense, they nevertheless enjoy broad prosecutorial authority over enforcement decisions.⁵⁷

On her last day as INS Commissioner, Doris Meissner issued a memorandum to all personnel regarding the use of prosecutorial discretion.⁵⁸ In many ways, the Meissner memo became the modern day “Operations Instruction” for practitioners to utilize in compelling cases. The Meissner memo is more expansive than the Operations Instruction to the extent that it identifies a range of possible actions (one of which is deferred action) to which prosecutorial discretion may apply.⁵⁹ Similarly, the Meissner memo reveals the government’s theory for why prosecutorial discretion is necessary. Titled “Exercising Prosecutorial Discretion,” the Meissner memo describes various acts that might fall under prosecutorial discretion:

[Prosecutorial discretion] applies not only to the decision to issue, serve, or file a Notice to Appear (NTA),⁶⁰ but also to a broad range of other discretionary enforcement decisions, including among others: Focusing investigative resources on particular offenses or conduct; deciding

using the discretion which they had taken away.” *Id.* at 32–33.

⁵⁴ Memorandum from Bo Cooper, General Counsel, U.S. Immigration and Naturalization Service, on INS Exercise of Prosecutorial Discretion, (available at INS and DOJ Legal Opinions §99–5 MB 2006).

⁵⁵ *Id.*

⁵⁶ *Id.*

⁵⁷ *Id.*

⁵⁸ Memorandum from Doris Meissner, *supra* note 3.

⁵⁹ *Id.* at 7–8.

⁶⁰ The Notice to Appear or NTA acts like a “charging” document. Procedurally, the NTA is served on the noncitizen and filed with the Immigration Court. Removal proceedings against a noncitizen commence once the NTA has been filed with the Immigration Court. The NTA itself contains important information about the government’s alleged charges against the noncitizen, the latter’s right to secure counsel at no expense to the government, and other important matters. The statutory section governing NTAs is INA § 239, 8 U.S.C. 1229 (2006). For a broader discussion about NTAs and related issues, see Wadhia, *supra* note 51.

whom to stop, question, and arrest; maintaining an alien in custody; seeking expedited removal or other forms of removal by means other than a removal proceeding; settling or dismissing a proceeding; granting deferred action or staying a final order; agreeing to voluntary departure, withdrawal of an application for admission, or other action in lieu of removing the alien; pursuing an appeal; and executing a removal order.⁶¹

The Meissner memo details the cost-related arguments behind prosecutorial discretion. “Like all law enforcement agencies, the INS has finite resources, and it is not possible to investigate and prosecute all immigration violations....the Service must make decisions about how best to expend its resources. Managers should plan and design operations to maximize the likelihood that serious offenders will be identified.”⁶² The Meissner memo also puts the humanitarian theory behind prosecutorial discretion to paper by listing a number of largely compassionate factors that may be considered by an immigration officer in deciding whether to exercise prosecutorial discretion.⁶³ While the list at first appears long and unachievable the Meissner memo suggests that an individual need not show every factor to qualify and clarifies that an officer’s decision must be based on a “totality of the circumstances, not on any one factor considered in isolation.”⁶⁴ The non-exhaustive list of factors identified by Meissner includes: 1) immigration status, 2) length of residence in the United States, 3) criminal history, 4) humanitarian concerns, 5) immigration history, 6) likelihood of ultimately removing the alien, 7) likelihood of achieving enforcement goal by other means, 8) whether the alien is eligible or is likely to become eligible for other relief, 9) effect of action on future admissibility, 10) current or past cooperation with law enforcement authorities, 11) honorable U.S. military service, 12) community attention, and 13) resources available to the INS.⁶⁵ Notably, the Meissner memo instructs that discretionary judgments *must* be made astutely and consistently. Specifically, Meissner notes, “[s]ervice officers are not only authorized by law but expected to exercise discretion in a judicious manner at all stages of the enforcement process—from planning investigations to enforcing final orders—subject to their chains of command and to the particular responsibilities and authority applicable to their specific

⁶¹ Memorandum from Doris, *supra* note 3, at 2.

⁶² *Id.* at 4–5.

⁶³ *Id.* at 7–8.

⁶⁴ *Id.* at 8.

⁶⁵ *Id.* at 7–8.

position.”⁶⁶ This language suggests that while the act of discretion is an option, exercising such discretion in a fair and evenhanded manner is an obligation. This is similar to the obligatory language of the former Operations Instruction on deferred action.⁶⁷

According to some scholars, the statutory reduction or near-elimination of judicial and agency discretion as a consequence of the 1996 laws was not necessarily eliminated. Instead, the government’s ability to grant a reprieve to desirable individuals and groups have been transferred to the Executive branch in the form of prosecutorial discretion.⁶⁸ As noted by immigration scholars Adam B. Cox and Christina Rodriguez:

...[I]t is important to see that the Executive still has de facto delegated authority to grant relief from removal on a case-by-case basis. The Executive simply exercises this authority through its prosecutorial discretion, rather than by evaluating eligibility pursuant to a statutory framework at the end of removal proceedings. In fact, because these decisions are no longer guided by the INA’s statutory framework for discretionary relief, the changes may actually have increased the Executive’s authority.⁶⁹

Cox and Rodriguez conclude that the scope of DHS’s prosecutorial discretion may have actually expanded as a consequence of the 1996 immigration laws. If their conclusion is accurate, then the importance of having an agency that exercises prosecutorial discretion in manner that incorporates the various humanitarian-related factors once utilized in the formal adjudicatory context cannot be overstated.

C. Agency Reorganization and Reaffirmation of Prosecutorial Discretion

The September 11, 2001 attacks launched a national discussion on border security and immigration law. A wide variety of stakeholders, among them congressional members, leaders in the White House and Executive Branch, individuals who favor restrictions to immigration, and public policy think tanks linked the September 11, 2001 attacks to failures

⁶⁶ Memorandum from Doris Meissner, *supra* note 3, at 1.

⁶⁷ O.I., *supra* note 18. “In every case where the district director determines that adverse action would be unconscionable because of the existence of appealing humanitarian factors, he *shall recommend* consideration for deferred action category....” (emphasis added). See also *Deferred Action*, *supra* note 9, at 821.

⁶⁸ See Adam B. Cox & Cristina M. Rodriguez, *The President and Immigration Law* (U. Chi. Law Sch. Pub. Law & Legal Theory Working Paper No. 262, 2009), available at <http://ssrn.com/abstract=1356963>.

⁶⁹ *Id.* at 49.

in the United States immigration system, pointing to border vulnerabilities and deficiencies at the Department of State and Immigration and Naturalization Service. What followed was a quick but passionate debate in Congress about overhauling the Immigration and Naturalization Service, then a component of the Department of Justice, and moving many of its units into a new cabinet-level agency.⁷⁰

With the passage of the Homeland Security Act of 2002, the INS was abolished by statute and immigration services, enforcement, and related policymaking (including visa policies) were transferred to a new “Department of Homeland Security.”⁷¹ The “services” unit known as the United States Citizenship and Immigration Services (USCIS) is responsible for processing affirmative applications and petitions such as lawful permanent resident (“green card”), asylum, and citizenship applications.⁷² Similarly, the USCIS includes a citizenship office, congressional relations office, chief counsel’s office and asylum and refugee affairs office.⁷³ As a consequence of meaningful tweaking by the former George W. Bush Administration, the immigration “enforcement” unit is comprised of two divisions: Customs and Border Protection (CBP) and Immigration and Customs Enforcement (ICE).⁷⁴ As the name suggests, CBP reflects a merger of the U.S. Border Patrol, U.S. Customs, and other agencies.⁷⁵ The immigration-related functions managed by CBP include inspections at ports of entry, and arrests and seizures of people and things at and between ports of entry, among other functions.⁷⁶ Like USCIS, CBP houses a congressional relations office and chief counsel’s office, as well as multiple offices focused on trade, border patrol, and international affairs, among others.⁷⁷ The second enforcement unit, ICE, is charged with a range of activities on the interior of the United States including investigating, arresting, detaining and charging noncitizens who are in violation of the immigration law.⁷⁸ ICE has the largest budget among the

⁷⁰ See, e.g., Homeland Security Act of 2002, 6 U.S.C. § 101 (2006).

⁷¹ *Id.*

⁷² U.S. Citizenship and Immigration Services, <http://www.uscis.gov/portal/site/uscis> (last visited Apr. 15, 2010).

⁷³ See generally *id.*

⁷⁴ U.S. Customs and Border Patrol, <http://www.cbp.gov/xp/cgov/home.xml> (last visited Apr. 15, 2010); U.S. Immigration and Customs Enforcement, <http://www.ice.gov/> (last visited Apr. 15, 2010).

⁷⁵ See generally U.S. Customs and Border Patrol, *id.*

⁷⁶ See generally *id.*

⁷⁷ Customs & Border Patrol (CBP), Organization Chart, <http://www.cbp.gov/linkhandler/cgov/about/organization/orgcha1.ctt/orgcha1.pdf> (2009).

⁷⁸ See generally U.S. Immigration and Customs Enforcement, *supra* note 74.

three immigration units and more than 17,000 employees.⁷⁹ ICE has five key divisions, including the Federal Protective Service, an intelligence office, an investigations office, an international affairs office and an office devoted to detention and removal.⁸⁰

Following reorganization, the immigration court system was retained in the Department of Justice under a unit called the Executive Office for Immigration Review (EOIR) while the function of issuing visas remained at the State Department.⁸¹ The Homeland Security Act resulted in additional jurisdictional and substantive changes with regard to the care and custody of unaccompanied minor children, oversight of individual and systemic abuses or misconduct by DHS officers and its contractors, and related matters.⁸² While the transfer of immigration enforcement authorities out of the Department of Justice and into the Department of Homeland Security may have provided the EOIR with a higher degree of decisional independence, the shift did not necessarily provide EOIR with greater authority to exercise this independence.⁸³ As described by Cox and Rodriguez:

[T]his effort to insulate decisions regarding relief from the prosecutorial arm of the immigration agencies has been undermined by the recent changes to the relief provisions. Those changes have had the effect of shifting more aspects of the deportation decision back to ICE. Thus, far from eliminating discretion, the statutory restrictions on discretionary relief have simply consolidated this discretion in the agency officials responsible for charging decisions. Prosecutorial discretion, rather than the exercise of discretion by immigration judges has become the norm.⁸⁴

Despite the transfer and merger of core immigration units into a new

⁷⁹ See generally U.S. ICE, Management and Budget Fact Sheets, <http://www.ice.gov/pi/news/factsheets/index.htm> (last visited Apr. 15, 2010).

⁸⁰ About U.S. ICE, <http://www.ice.gov/about/index.htm> (last visited Apr. 15, 2010).

⁸¹ See generally U.S. Dep't of Justice, Executive Office of Immigration Review, <http://www.usdoj.gov/eoir/> (last visited Apr. 15, 2010); U.S. Dep't of State, Visa Documents, <http://www.state.gov/misc/59452.htm> (last visited Apr. 15, 2010).

⁸² U.S. Dep't of Health & Human Serv., Admin. for Children & Families, <http://www.acf.hhs.gov/programs/orr/> (last visited Apr. 15, 2010); Dep't of Homeland Sec., Office for Civil Rights and Civil Liberties, http://www.dhs.gov/xabout/structure/editorial_0371.shtm (last visited Apr. 15, 2010); U.S. Dep't of Justice, Executive Office of Immigration Review, *id.*

⁸³ Cox & Rodriguez, *supra* note 68, at 49.

⁸⁴ *Id.* at 50.

cabinet level department, and absence of a particular individual to oversee the arguably competing missions and cultures of the new immigration units, the Meissner memo and principle of prosecutorial discretion survived the move.⁸⁵

The foregoing summary about how INS was overhauled and reorganized into the DHS is by no means complete but provides an important foundation for understanding the varying locations and individuals who possess the great power of prosecutorial discretion. Subsequent written memos issued by UCIS, CBP and ICE have been in keeping with, referenced, or in some cases explicitly reaffirmed the Meissner memo.⁸⁶ For example, in January 2003, former USCIS Executive Associate Commissioner Johnny N. Williams issued a memo to Regional Directors, Deputy Executive Associate Commissioner, Immigration Services and General Counsel advising officers of their authority to refrain from bringing charges against noncitizens who are both a beneficiary of such benefits and potentially in violation of immigration laws as a consequence of their unlawful presence.⁸⁷ In this scenario, the Williams memo reminds officers that they may refrain from charging such noncitizens and calculate humanitarian and other factors when making such a determination.⁸⁸ The Williams memo also instructs officers to review the Meissner memo.⁸⁹ Moreover, in September 2003, former USCIS Associate Director for Operations William Yates issued a memo to Regional Directors and Service Center Directors discussing their authority to issue charging documents to noncitizens, and reminding Directors that every decision must be made in accordance with the Meissner memo.⁹⁰

Similarly, in October 2005, former ICE Principal Legal Advisor William J. Howard issued a memo to all OPLA (Office of the Principal Legal Advisor) Chief Counsel highlighting the limited resources of ICE and position that "...the universe of opportunities to exercise prosecutorial discretion is large."⁹¹ The Howard memo lists scenarios during which an

⁸⁵ For an excellent discussion and critique of the INS reorganization and related recommendations, see David A. Martin, *Immigration Policy and the Homeland Security Act Reorganization: An Early Agenda for Practical Improvements*, INSIGHT (Migration Policy Institute), Apr. 2003, available at http://www.migrationpolicy.org/insight/insight_4-2003.pdf.

⁸⁶ See, e.g., Memorandum from Johnny N. Williams, Executive Associate Commissioner of the Office of Field Operations of the U.S. Immigration and Naturalization Service, on Family Unity Benefits and Unlawful Presence (Jan. 27, 2003) (available at <http://www.aila.org>).

⁸⁷ *Id.*

⁸⁸ *Id.*

⁸⁹ *Id.*

⁹⁰ Memorandum from William R. Yates, Associate Director for Operations of U.S. Dep't of Homeland Sec., Citizenship and Immigration Services, on Service Center Issuance of Notice to Appear (Form I-862) (Sept. 12, 2003).

⁹¹ Memorandum from William J. Howard, Principal Legal Advisor for U.S. ICE, on Prosecutorial

officer's "favorable" exercise of discretion would be appropriate such as discouraging the issuance of charging papers to noncitizens with viable family petitions or green card applications and those with sympathetic factors such as parents of citizen children with a serious medical condition.⁹² The Howard memo also offers possible scenarios for deferring enforcement even after charging papers have been filed.⁹³ Overall, the Howard memo preserves many of the same principles echoed by the former INS. "Prosecutorial discretion is a very significant tool ...to deal with the difficult, complex and contradictory provisions of the immigration laws and cases involving human suffering and hardship."⁹⁴

More recently, in November 2007, former ICE Assistant Secretary Julie Myers issued guidance to all field office directors and special agents in charge, advising them to release apprehended nursing mothers absent national security or public safety or other investigative interests.⁹⁵ In the memo, Myers reminds officers that "[t]he process for making discretionary decisions is outlined in the [Meissner memo] ...Field agents and officers are not only authorized by law to exercise discretion within the authority of the agency but are expected to do so in a judicious manner at all stages of the enforcement process."⁹⁶ In response to criticisms surrounding ICE's large scale arrest of 250 workers at a leather shoe factory in New Bedford, MA and following meaningful negotiations with the late Senator Edward Kennedy, a Democrat from Massachusetts and then Chairman of the Senate Judiciary Committee, and Representative William Delahunt, a Democrat from Massachusetts, ICE issued a memo in November 2007 entitled "Guidelines for Identifying Humanitarian Concerns among Administrative Arrestees When Conducting Worksite Enforcement Operations."⁹⁷ While the guidelines were crafted more as instructions to front line officers after ICE exercised its authority to investigate and carryout what were largely worksite enforcement actions, (which arguably is, in and of itself a discretionary determination) some of the guideline's language relates squarely with exercising prosecutorial discretion based on

Discretion 2 (October 24, 2005), *available at* www.shusterman.com/pdf/ice-pdmemo1005.pdf.

⁹² *Id.* at 3–4.

⁹³ *Id.* at 5–6.

⁹⁴ *Id.* at 8.

⁹⁵ Memorandum from Julie L. Myers, Assistant Secretary of Homeland Security for Immigration and Customs Enforcement, on Prosecutorial and Custody Discretion (Nov. 7, 2007) (*available at* <http://www.bibdaily.com/pdfs/AS%20MYERS%20MEMO%20RE%20PROSECUTORIAL%20AND%20CUSTODY%20DISCRETION.pdf>).

⁹⁶ *Id.*

⁹⁷ Press Release, Kennedy, Delahunt Announce New Guidelines for Immigration Raids (Nov. 16, 2007), *available at* http://kenedy.senate.gov/newsroom/press_release.cfm?id=0F91969E-96EB-4AB1-832B-2CF42451B587. See also Shoba Sivaprasad Wadhia, *Under Arrest: Immigrants' Rights and the Rule of Law*, 38 U. MEM. L. REV. 853 (2008).

individual circumstances.⁹⁸

D. Deferred Action under the Department of Homeland Security

Notably, the Department of Homeland Security has maintained the deferred action program of the former INS.⁹⁹ Pursuant to FOIA requests, Leon Wildes obtained deferred action records from the Eastern and Central Regional Offices of the Bureau of Citizenship and Immigration Services (now United States Citizenship and Immigration Services, or USCIS).¹⁰⁰ Specifically, Wildes studied data on 499 approved, removed and denied cases under the deferred action program.¹⁰¹ This data is current through April 2003.¹⁰² In both the central and eastern regional offices, approximately eighty-nine percent of the cases were approved.¹⁰³ In most of the cases reviewed by Wildes, decisions took the form of a terse statement without explaining the overriding factor influencing the decision.¹⁰⁴ Nevertheless, the existence of potential separation from family and/or an existing physical infirmity was a major factor in deferred action adjudications.¹⁰⁵ Wildes observes:

In light of the fact that these cases involve alien spouses who are completely reliant on public assistance and receive state-funded medical care, it is striking that the government approved them for deferred action status. This fact exemplifies that the humanitarian goal of deferred action take precedence over the usual concerns of the INS, which removes aliens who have become a burden upon United States resources and thus become subject to the public charge provision, another distinct ground removal.¹⁰⁶

⁹⁸ Press Release, Kennedy, Delahunt Announce New Guidelines for Immigration Raids, *id.*; See also Wadhia, *id.*, at 881.

⁹⁹ See, e.g., Memorandum from William J. Howard, Principal Legal Advisor for U.S. Immigration and Customs Enforcement, on Exercising Prosecutorial Discretion to Dismiss Adjustment Cases (October 6, 2005), available at www.assistahelp.org/VAWA/Howard-10-6-05.pdf, ALEINIKOFF, *supra* note 4, at 778 (citing to the INS Standard Operating Procedures for Enforcement Officers: Arrest, Detention, Processing, and Removal, Part X).

¹⁰⁰ Wildes, *Deferred Action*, *supra* note 8, at 825.

¹⁰¹ *Id.* at 826.

¹⁰² *Id.* at 827.

¹⁰³ *Id.* at 826.

¹⁰⁴ *Id.* at 829.

¹⁰⁵ Wildes, *Deferred Action*, *supra* note 8, at 831.

¹⁰⁶ *Id.* at 832.

The 2003 data also reveals that separation from family and negative publicity, when coupled with other factors such as a medical condition, influenced grants of deferred action.¹⁰⁷ One striking difference in Wildes' 1976 study is the higher number of grants for noncitizens who were mentally infirm, or who had criminal histories due to drug convictions, as compared to the 2003 data.¹⁰⁸ Ultimately, comparing the 1976 data with the 2003 data provides limited utility since the sample collected in the former contained only grants of deferred action while the sample collected in the latter was quantitatively smaller and contained grants, denials and removals.¹⁰⁹

In April 2007, Prakash Khatri, then Ombudsman of the United States Citizenship and Immigration Services issued a "Recommendation" on deferred action, highlighting the history and authority for deferred action and recommending that the USCIS publicize and maintain statistics on the deferred action program.¹¹⁰ The Recommendation reasoned that tracking deferred action cases would increase consistency in adjudications.¹¹¹ As to the public benefit, Khatri noted:

This recommendation seeks to improve customer service by making basic information on deferred action requests clear to the public: where to submit a request, what to include with a submission, and the general criteria for requests to be approvable. Implementation of this recommendation would prevent customers from having to guess where and what information to submit. It also would prevent officers in the field from providing misinformation about where a request for deferred action should be submitted. This recommendation also seeks to ensure that over time and in different regions, cases are similarly decided.¹¹²

Then USCIS Director Emilio Gonzalez issued a response in August 2007.¹¹³ With regard to posting information about the deferred action

¹⁰⁷ *Id.* at 835.

¹⁰⁸ *Id.* at 833, 836–37.

¹⁰⁹ *Id.* at 838.

¹¹⁰ Recommendation from Prakash Khatri, CIS Ombudsman, to Dr. Emilio T. Gonzalez, Director USCIS on Deferred Action (Apr. 6, 2007), available at http://www.dhs.gov/xlibrary/assets/CISOmbudsman_RR_32_O_Deferred_Action_04-06-07.pdf.

¹¹¹ *Id.*

¹¹² *Id.* at 3.

¹¹³ Memorandum from Dr. Emilio T. Gonzalez, Director U.S. Citizenship and Immigration

program on the USCIS website, Gonzalez responded:

Deferred action is a discretionary action initiated at the discretion of the agency or at the request of the alien, rather than an application process. Since deferred action requests are reviewed on a case-by-case basis and granted only in extraordinary circumstances, USCIS does not believe that general information about the deferred action process would be a meaningful addition to the website.¹¹⁴

As to tracking deferred action cases, Gonzalez concluded that future deferred action grants would be monitored by the Regional Directors and reported to USCIS Headquarters.¹¹⁵ However, Gonzalez did not believe it was necessary for USCIS Headquarters to track and review deferred action cases to ensure consistency among regions.¹¹⁶ Finally, USCIS agreed that clarifying guidelines on deferred action for USCIS and ICE officers would be beneficial.¹¹⁷ The foregoing correspondence is notable and reflects a tension about whether deferred action should operate as an internal guideline or a rule. Whereas Khatri recommended a policy on deferred action that would appear like a rule and benefit, Gonzalez cautiously avoided this characterization.

More recently, deferred action has been applied at a macro level. In June 2009, DHS publicly announced that it would extend deferred action to widows and widowers of U.S. citizens— as well as their unmarried children under 21 years old— who reside in the United States and who were married for less than two years prior to their spouse's death.¹¹⁸ In a related press release, DHS identified the contours of deferred action: "Deferred action is generally an act of prosecutorial discretion to suspend removal proceedings against a particular individual or group of individuals for a specific timeframe; it cannot resolve an individual's underlying immigration status."¹¹⁹ Deferred action has also been granted on an individual basis to select "DREAM Act" students.¹²⁰ The Development,

Service, to Prakash Khatri, U.S. Citizenship and Immigration Service Ombudsman, on Response to Recommendation #32, Deferred Action (Aug. 7, 2007), *available at* http://www.dhs.gov/xlibrary/assets/cisombudsman_rr_32_o_deferred_action_uscis_response_08-07-07.pdf.

¹¹⁴ *Id.* at 1.

¹¹⁵ *Id.* at 2.

¹¹⁶ *Id.*

¹¹⁷ *Id.*

¹¹⁸ Press Release, Dep't of Homeland Sec., DHS Establishes Relief for Widows of U.S. Citizens (June 9, 2009), *available at* http://www.dhs.gov/ynews/releases/pr_1244578412501.shtm.

¹¹⁹ *Id.*

¹²⁰ Development, Relief, and Education for Alien Minors Act of 2009, S. 729, 111th Cong.

Relief, and Education for Alien Minors Act, or DREAM Act, refers to pending federal legislation that would regularize the immigration status of select immigrant students who have graduated from a United States high school, have a record of “good moral character,” have been continuously present in the United States, and entered the United States at a tender age.¹²¹

Prosecutorial discretion has also historically been applied to groups or classes of individuals through “Extended Voluntary Departure,” or EVD. Like with deferred action, EVD does not have a statutory basis nor is there an application form or process. Instead, the program “permits the AG in his discretion to temporarily enjoin the removal from particular countries who fear return because of sudden political changes in their countries of origin or other reasons.”¹²² In the past, the Attorney General has established an EVD program for citizens of Poland, Cuba, the Dominican Republic, Chile, Cambodia, Vietnam, among others.¹²³ Another formulation of the EVD program is called “Deferred Enforcement Departure,” or DED. DED can be utilized by the President to temporarily safeguard classes of individuals from removal. As described by DHS: “Although DED is not a specific immigration status, individuals covered by DED are not subject to enforcement actions to remove them from the United States, usually for a designated period of time.”¹²⁴ Notably, President Barack Obama signed a Memorandum for the Secretary of Homeland Security in March 2009 extending DED for qualified Liberians.¹²⁵ It is worth noting that EVD is rarely used today due in part to the fact that many of the benefits of EVD now have a statutory basis

(2009). *See, e.g.*, Dream Activist-News Flash: Taha Receives Deferred Action, <http://www.dreamactivist.org/news-flash-taha-recieves-deffered-action> (last visited Apr. 15, 2010).

¹²¹ *Id.* *See also* Dream Activist, <http://www.dreamactivist.org/> (last visited Apr. 15, 2010).

¹²² IRA KURZBAN, KURZBAN’S IMMIGRATION LAW SOURCEBOOK 493 (11th ed. 2009). *See also* Hotel and Restaurant Employees Union Local v. Smith, 846 F.2d 1499, 1501 (D.C. Cir. 1988).

¹²³ KURZBAN, *id.* at 493.

¹²⁴ U.S. DEP’T OF HOMELAND SEC., FACT SHEET, LIBERIANS PROVIDED DEFERRED ENFORCED DEPARTURE (DED) (Sep. 19, 2007), *available at* http://www.dhs.gov/xnews/releases/pr_1189693482537.shtm; *see also* U.S. CITIZENSHIP & IMMIGRATION SERVICES, AFFIRMATIVE ASYLUM PROCEDURES MANUAL 57 (Nov. 2007), *available at* <http://www.uscis.gov/files/nativedocuments/AffirmAsyManFNL.pdf>. “Deferred Enforced Departure (DED) grants certain qualified citizens and nationals of designated countries a temporary, discretionary, administrative protection from removal from the United States and eligibility for employment authorization for the period of time in which DED is authorized. The President determines which countries will be designated based upon issues that may include, but are not limited to, ongoing civil strife, environmental disaster, or other extraordinary or temporary conditions. The decision to grant DED is issued as an Executive Order or Presidential Memorandum.”

¹²⁵ Memorandum on Deferred Enforced Departure for Liberians (Mar. 20, 2009), *available at* http://www.uscis.gov/files/article/Liberia_26mar2009.pdf.

through a program called “Temporary Protected Status.”¹²⁶

For more than sixty years, the immigration agency has applied the theory of prosecutorial discretion to individuals and groups. While the agency’s historical application of prosecutorial discretion has in many cases been legitimately driven by resource and humanitarian considerations, the absence of oversight, accountability and transparency by the agency has negatively impacted undocumented noncitizens and their families. Moreover, the agency’s unwillingness to recognize deferred action as an available benefit worthy of public disclosure is troubling. The practical implication is that undocumented noncitizens are prevented from requesting for deferred action or challenging instances where the agency has failed to grant deferred action.

III. LESSONS FROM CRIMINAL LAW

A. History and Description of Prosecutorial Discretion in the Criminal System

There is little disagreement among criminal law and justice scholars that the American prosecutor enjoys wide power and discretion. In fact, one scholar has relied on historical analyses to conclude that the American prosecutor holds discretionary power “unmatched in the world.”¹²⁷ The prosecutor carries a discretionary role at many important stages of the criminal process including whether to bring an arrest, when to file charges, whether to bring charges under federal or state law, or whether an existing charge should be dissolved.¹²⁸ As articulated by Angela Davis, “Prosecutors are the most powerful officials in the criminal justice system because they alone decide whether to charge a person with a crime, what charges to bring, and when to accept a plea to a lesser offense.”¹²⁹

For years, criminal law scholars have written about the history, power

¹²⁶ INA § 244(a), 8 U.S.C. § 1254(a) (2006).

¹²⁷ Celesta A. Albonetti, *Prosecutorial Discretion: The Effects of Uncertainty*, 21 LAW & SOC’Y REV. 291, 292 (1987). See also ANGELA J. DAVIS, ARBITRARY JUSTICE (2007); Angela J. Davis, *The American Prosecutor: Independence, Power, and the Threat of Tyranny*, 86 IOWA L. REV. 393 (2001) [hereinafter Davis, *American Prosecutor*]; Angela J. Davis, *They Must Answer for What They’ve Done*, LEGAL TIMES, Aug. 2007, at 2 [hereinafter Davis, *They Must Answer*]; KENNETH CULP DAVIS, POLICE DISCRETION (1975). See also Lauren O’Neill Shermer & Brian D. Johnson, *Criminal Prosecutions: Examining Prosecutorial Discretion and Charge Reductions in U.S. Federal District Courts*, JUST. Q., Apr. 2009, at 1–2 (“Importantly, these early case processing decisions are not controlled by the sentencing judge, but instead fall under the auspices of the one of the most powerful and least researched members of the federal courtroom workgroup– the U.S. Attorney.”); *Id.* at 5 (“Few criminal justice pundits would disagree that the prosecutor is one of the most, if not the most influential and power persons in the criminal justice system.”).

¹²⁸ See, e.g., Shermer & Johnson, *id.*, at 5.

¹²⁹ Davis, *They Must Answer*, *supra* note 127, at 2.

and abuse of prosecutorial discretion.¹³⁰ The term prosecution was developed in England and America in the context of a private prosecution system. Before the American Revolution, the arrest and prosecution of potential wrongdoers fell on the crime victims' as such victims literally performed the role of the prosecutor (or hired a private advocate to do the same), investigating and building a case before a trial.¹³¹ Punishment was in the form of services to the victim or imprisonment at the victim's expense.¹³² The population growth in colonial America came with a growth in criminal activity, causing private victims to resort to settlements instead of trial and overall chaos in the system. The birth of public prosecutions was preceded by a practical desire to prevent abuses and a philosophical position about crime and society.¹³³

The first public prosecutor was an "Attorney General" appointment in Virginia in 1643.¹³⁴ The Judiciary Act of 1789 created the first federal office of the attorney general and district attorneys, though without a clear configuration or hierarchy.¹³⁵ Thereafter, "crime" commissions were developed to study the criminal justice system.¹³⁶ In particular, the Wickersham Commission identified abuses with prosecutorial power and discretion and made practical recommendations.¹³⁷ In 1931 the Wickersham Commission wrote, "[i]n every way the prosecutor has more power over the administration of justice than the judges, with much less public appreciation of his power. We have been jealous of the power of the trial judge, but careless of the continual growth of the power of the prosecuting attorney."¹³⁸ Davis argues that despite the findings and recommendations of the Wickersham Commission, other commissions, and legal scholars, there has been no significant reform of the prosecutorial process.¹³⁹ According to Davis, prosecutors retain even more power,

¹³⁰ See, e.g., DAVIS, *ARBITRARY JUSTICE*, *supra* note 127; Davis, *They Must Answer*, *supra* note 127; Davis, *American Prosecutor*, *supra* note 127; Bruce A. Green & Fred C. Zacharias, *Prosecutorial Neutrality*, 2004 WIS. L. REV. 837 (2004); Carolyn B. Ramsey, *The Discretionary Power of "Public" Prosecutors in Historical Perspective*, 39 AM. CRIM. L. REV. 1309 (2002); Albonetti, *supra* note 127; Rachel E. Barkow, *Institutional Design and the Policing of Prosecutors: Lessons from Administrative Law*, 61 STAN. L. REV. 869 (2009).

¹³¹ DAVIS, *ARBITRARY JUSTICE*, *supra* note 127, at 9.

¹³² *Id.* at 10.

¹³³ *Id.* at 10.

¹³⁴ *Id.*

¹³⁵ *Id.* at 11.

¹³⁶ DAVIS, *ARBITRARY JUSTICE*, *supra* note 127, at 11.

¹³⁷ *Id.* at 12.

¹³⁸ JOAN E. JACOBY, THE MINNESOTA COUNTY ATTORNEY'S ASSOCIATION, THE AMERICAN PROSECUTOR IN HISTORICAL CONTEXT, *available at* <http://www.mcaa-mn.org/docs/2005/AmericanProsecutorHistoricalContext52705.pdf>.

¹³⁹ DAVIS, *ARBITRARY JUSTICE*, *supra* note 127, at 12.

independence, and discretion than they did in the nineteenth century.¹⁴⁰

Like with immigration enforcement, there are many stages of the criminal process. The police officer carries the power to arrest. Thereafter, the prosecutor decides whether and what kind of charges to file. If a prosecutor decides not to bring charges, the person is free to go.¹⁴¹ Federal courts must utilize the grand jury process for felony charges. This means that the citizen-jurors together must decide whether there is probable cause to believe that a defendant committed a felony offense.¹⁴² While it may appear that the grand jury serves as an important “check” to the arresting police officer and prosecutor in determining whether a formal charge should be made, some scholars argue that it is the prosecutor who actually controls the grand jury process.¹⁴³ Another routine practice among prosecutors is “overcharging,” which places the prosecutor in a greater bargaining position during the “plea bargaining” stage and also provides him with a “plan B” in case the defendant is not convicted on the primary charge.¹⁴⁴

Plea bargaining is another stage during which prosecutors hold a great amount of discretion. In light of the fact that most criminal defendants enter into guilty pleas, if the crimes carry a mandatory minimum sentence, it is accurate to conclude, as Davis does, that the charging and plea bargaining stages of the criminal process largely determine the defendant’s fate.¹⁴⁵ Another complex issue in criminal cases is the relationship between the crime victim and the prosecutor. Davis advises that while the prosecutor should support crime victims, his obligations are broader and may potentially conflict with the victim’s goals.¹⁴⁶ Notably, prosecutors also control “death penalty” cases to the extent that only a prosecutor, as

¹⁴⁰ *Id.* at 12. The power of the American prosecutor was echoed by former Attorney General Robert H. Jackson. James K. Robinson, *Restoring Public Confidence in the Fairness of the Department of Justice’s Criminal Justice Function*, 2 HARV. L. & POL’Y REV. 237, 239–40 (2008).

¹⁴¹ DAVIS, ARBITRARY JUSTICE, *supra* note 127, at 23.

¹⁴² *Id.* at 25.

¹⁴³ See, e.g., *id.* at 26. See also, Peter J. Henning, *Prosecutorial Misconduct in Grand Jury Investigations*, 51 S.C. L. REV. 1, 3 (1999); Susan W. Brenner, *The Voice of the Community: A Case for Grand Jury Independence*, 3 VA. J. SOC. POL’Y & L. 67, 122 (1995); Kevin K. Washburn, *Restoring the Grand Jury*, 76 FORDHAM L. REV. 2333, 2336 n.4 (2008) (“grand jury review represents, at best, ‘a modest screening power, a fact recognized by the familiar courthouse saying that a grand jury would indict a ham sandwich if the prosecutor asked it do so.’”) (citing to Ronald Wright & Marc Miller, *The Screening/Bargaining Tradeoff*, 55 STAN. L. REV. 29, 51 n.70 (2002)).

¹⁴⁴ DAVIS, ARBITRARY JUSTICE, *supra* note 127, at 31.

¹⁴⁵ *Id.* at 56. See also Jeffrey Standen, *Plea Bargaining in the Shadow of the Guidelines*, 81 CAL. L. REV. 1471 (1993) (discussing the exercise of discretion in plea bargaining); Leslie C. Griffin, *The Prudent Prosecutor*, 14 GEO. J. LEGAL ETHICS 259, 268–75 (2001) (discussing discretion in the plea bargaining and charging stages).

¹⁴⁶ DAVIS, ARBITRARY JUSTICE, *supra* note 127, at 76.

opposed to a judge or a more neutral party, can decide whether to seek the death penalty in a particular case.¹⁴⁷

B. Application of Criminal Prosecutorial Discretion to Immigration Context

An analysis of prosecutorial discretion in the criminal context is valuable on at least four levels. First, the cost and justice-related theories behind prosecutorial discretion in the criminal justice context and the civil immigration context are similar. Second, both the criminal and civil immigration arenas have witnessed an explosion of activities that qualify as infractions subject to penalties. Third, the immigration agency INS/DHS has historically relied on documents produced and utilized in the criminal context to create guidance for immigration officers. Finally, the surge in immigration-related criminal prosecution raises a number of questions about how prosecutorial discretion is exercised against noncitizens in both the criminal and civil contexts. These four points are discussed in turn below.

1. Cost and Justice-Related Theories are Similar

As in the civil immigration context, the historical arguments and rationale for prosecutorial discretion in the criminal context are largely grounded in efficiency and justice. As stated by former Attorney General Robert H. Jackson before the Conference of United States Attorneys in 1940, “[n]o prosecutor can even investigate all of the cases in which he receives complaints. If the Department of Justice were to make even a pretense of reaching every probable violation of federal law, ten times its present staff would be inadequate. . . .”¹⁴⁸ The justice-related rationale behind prosecutorial discretion is explained in the United States Attorney Manual’s opening chapter on principles of federal prosecution:

The manner in which Federal prosecutors exercise their decision-making authority has far-reaching implications, both in terms of justice and effectiveness in law enforcement and in terms of the consequences for individual citizens. A determination to prosecute represents a policy judgment that the fundamental interests of society require the application of the criminal laws to a particular set of circumstances— recognizing both that serious violations of Federal law must be prosecution, and

¹⁴⁷ *Id.* at 78.

¹⁴⁸ Robinson, *supra* note 140, at 239.

that prosecution entails profound consequences for the accused and the family of the accused whether or not a conviction ultimately results.¹⁴⁹

The USAM highlights the importance for each Federal prosecutor to be guided by the principles set forth in the manual, but permits a departure from such principles if necessary in “the interests of fair and effective law enforcement within the district.”¹⁵⁰

Both the USAM and the Meissner memo utilize a “substantial federal interest” standard focusing on both costs and justice.¹⁵¹ Specifically, the standard identifies the following considerations for determining whether prosecution should be declined: 1) federal law enforcement priorities, 2) nature and seriousness of the offense, 3) the deterrent effect of prosecution, 4) sufficiency of evidence to prove culpability, 5) prior criminal history, 6) willingness to cooperate with investigations or prosecutions of others, and 7) the potential sentence and related consequences if convicted.¹⁵²

As in the Meissner memo, the USAM notes that not every factor needs to be complied with in order for a federal prosecutor to decline prosecution.¹⁵³ In discussing the nature and seriousness of offense, the USAM notes that “[i]t is important that limited federal resources not be wasted in prosecuting inconsequential cases or cases in which the violation was technical.”¹⁵⁴ Illustrating this point, Davis comments on the discretion used by police each time someone commits a traffic violation.¹⁵⁵ She argues that few people would be supportive of a law that required police officers to issue tickets to every person who committed a traffic violation.¹⁵⁶ Davis also argues that the populace would assent that officers should preserve their limited resources for “more serious offenses” than traffic-related ones.¹⁵⁷ Moreover, the USAM states that “[e]conomic, physical, and psychological considerations are also important in assessing the impact of the offense on the victim. In making this connection, it is appropriate for the prosecutor to take into account such matters as the victim’s age or health, and whether full or partial restitution has been

¹⁴⁹ PRINCIPLES OF FEDERAL PROSECUTION, U.S. ATTORNEY’S MANUAL § 9-27.001 (1997).

¹⁵⁰ U.S. ATTORNEY’S MANUAL § 9-27.140(A) (1997).

¹⁵¹ U.S. ATTORNEY’S MANUAL § 9-27.220 (1997).

¹⁵² U.S. ATTORNEY’S MANUAL § 9-27.230(A) (1997).

¹⁵³ *Id.*

¹⁵⁴ U.S. ATTORNEY’S MANUAL § 9-27.230(B) (1997).

¹⁵⁵ DAVIS, ARBITRARY JUSTICE, *supra* note 127, at 6.

¹⁵⁶ *Id.*

¹⁵⁷ *Id.*

made.”¹⁵⁸ It also describes personal factors of the accused such as “extreme youth, advanced age, mental or physical impairment” as potential reasons to decline prosecution.¹⁵⁹ While the content of the USAM guidelines are notable, Davis critically notes that these guidelines are not legally binding, and therefore do not establish accountability.¹⁶⁰

2. *Explosion of Activities that Qualify as Infractions*

Much like the 1996 immigration laws heightened the importance of prosecutorial discretion in the immigration context, so too did the preservation and growth of criminal statutes in the criminal context. Davis describes an instance in which prosecutorial discretion can affect the application of a preserved criminal statute:

Legislatures pass laws criminalizing a vast array of behaviors, and some of these laws, such as fornication and adultery for example, stay on the books long after social mores about these behaviors have changed. In addition, some offenses warrant prosecution in some instances but not others. For example, it may be reasonable to bring a prosecution in a jurisdiction that criminalized gambling for someone engaged in a large scale operation but not for individuals placing small bets during a Saturday night poker game in a private home.¹⁶¹

Cox and Rodriguez argue that the President has assumed enormous power over immigration matters primarily through: 1) inherent executive authority, 2) formal mechanisms of congressional delegation, and 3) de facto delegation.¹⁶² Focusing on de facto delegation, they conclude that the criminal justice system bears a meaningful resemblance to the civil immigration one to the extent that the “laws on the books makes everyone a felon.”¹⁶³ Namely, it is the sheer breadth of immigration sanctions and the under-enforcement of these sanctions that have together created broad de facto delegation.¹⁶⁴ Cox and Rodriguez conclude, “[t]he trends have

¹⁵⁸ U.S. ATTORNEY’S MANUAL § 9-27.230(B) (1997).

¹⁵⁹ *Id.*

¹⁶⁰ DAVIS, *ARBITRARY JUSTICE*, *supra* note 127, at 18.

¹⁶¹ *Id.* at 13.

¹⁶² Cox & Rodriguez, *supra* note 68, at 3.

¹⁶³ *Id.* at 45 n.147.

¹⁶⁴ *Id.* at 45 (“First, a huge fraction of the noncitizen population is deportable as a technical legal matter. Second, while vast numbers of noncitizens are deportable, only a tiny fraction will ever be placed in removal proceedings. Third, the immigration agencies wield the same power as criminal

made administration of immigration law look more and more like the administration of criminal law, where charging decisions rather than either the formal legal rules or the exercise of judicial discretion determine who is deported and what collateral consequences attach to deportation.”¹⁶⁵

3. *Reliance on Documents Utilized in the Criminal Context*

As a practical matter, in developing the prosecutorial guidelines applicable to immigration officers, the former INS General Counsel and the former Commissioner have relied heavily on principles of prosecutorial discretion in the criminal context.¹⁶⁶ For example, former General Counsel for the Immigration and Naturalization Service Bo Cooper drafted a memorandum on prosecutorial discretion noting that, “[t]he idea that prosecutor is vested with broad discretion in deciding when to prosecute and when not to prosecute is firmly entrenched in American law.”¹⁶⁷ In addition to the costs and justice arguments, the memorandum identifies a third important rationale for discretion in the criminal context, namely the legislative “overcriminalization,” which means the longevity of criminal statutes that in modern society may not necessarily be conceived of as a “crime.”¹⁶⁸

Similarly, the Meissner memo relies on the U.S. Department of Justice’s United States Attorneys’ Manual’s Principles of Federal Prosecution.¹⁶⁹ As explained earlier, the Principles of Federal Prosecution governing the conduct of U.S. Attorneys use the concept of a “substantial Federal interest.”¹⁷⁰ Based on this principle, the Meissner memo states, “As a general matter, INS officers may decline to prosecute a legally sufficient immigration case if the Federal immigration enforcement interest that would be served by prosecution is not substantial.”¹⁷¹ Referencing the USAM, The Meissner memo lists some beneficial aspects of such principles:

[s]uch principles provide convenient reference points for the process of making prosecutorial decisions; facilitate

prosecutors to make selective charging decisions. In this way, the structure of immigration system delegates tremendous power to the executive branch.”).

¹⁶⁵ *Id.* at 50.

¹⁶⁶ See Bo Cooper, *supra* note 54; Doris Meissner, *supra* note 3.

¹⁶⁷ Bo Cooper, *supra* note 54, at 2 (citing WAYNE R. LAFAYE & JEROLD H. ISRAEL, CRIMINAL PROCEDURE § 13.2 (2d ed. 1992)).

¹⁶⁸ *Id.*

¹⁶⁹ Doris Meissner, *supra* note 3, at 2.

¹⁷⁰ U.S. ATTORNEY’S MANUAL, *supra* note 151.

¹⁷¹ Doris Meissner, *supra* note 3, at 5.

the task of training new officers in the discharge of their duties; contribute to more effective management of the Government's limited prosecutorial resources by promoting greater consistency among the prosecutorial activities of different offices and between their activities and the INS's law enforcement priorities; make possible better coordination of investigative and prosecutorial activity by enhancing the understanding between the investigative and prosecutorial components; and inform the public of the careful process by which prosecutorial decisions are made.¹⁷²

4. Surge in Immigration-Related Criminal Prosecutions

Related to the foregoing discussion about the application of prosecutorial discretion in the criminal and immigration contexts, is the striking increase of *criminal* immigration prosecutions over the last decade.¹⁷³ Contrast this with *civil* immigration violations, which as the name suggests, are not classified as "crimes" in the formal sense. For example, an individual who enters the United States as a full-time student and who during the second semester works without authorization can be charged civilly based on her failure to maintain the terms of her visa.¹⁷⁴ However, the nature of some offenses that are legally classified as a "criminal" immigration violation is not necessarily violent or "criminal" in the ordinary meaning of the word. To illustrate, an individual who enters the United States one time without inspection can be prosecuted under the criminal law.¹⁷⁵ Finally, some immigration-related transgressions can be prosecuted as both a civil immigration offense and a criminal one.¹⁷⁶ For instance, the immigration statute makes the failure to notify the government of a change of address within 10 days of moving both a civil offense, for which a noncitizen may be removed, as well as a criminal offense, for which a noncitizen may be fined up to \$200 and imprisoned

¹⁷² *Id.* at 2.

¹⁷³ See, e.g., TracImmigration, Immigration Convictions for December 2009, <http://trac.syr.edu/tracreports/bulletins/immigration/monthlydec09/gui/> (last visited Apr. 15, 2010); Julia Preston, *More Illegal Crossings Are Criminal Cases, Group Says*, N.Y. TIMES, June 18, 2008, at A14; *Hearing on the Arrest, Prosecution, and Conviction of Undocumented Workers in Postville, Iowa from May 12 to 22, 2008*, H. Comm. on the Judiciary (2008) (Statement of David Wolfe Leopold, American Immigration Lawyers Ass'n); Stephen H. Legomsky, *The New Path of Immigration Law: Asymmetric Incorporation of Criminal Justice Norms*, 64 WASH. & LEE L. REV. 469 (2007).

¹⁷⁴ See, e.g., INA § 237, 8 U.S.C. § 1227 (2006).

¹⁷⁵ 8 U.S.C. § 1325 (2006).

¹⁷⁶ See, e.g., INA §§ 265, 266, 274(c), 8 U.S.C. §§ 1305, 1306, 1324(c) (2006).

for up to 30 days.¹⁷⁷

Notably, there are nearly 5,800 federal prosecutors in the more than 90 United States attorney's offices.¹⁷⁸ In 2007, 68,000 federal criminal cases were filed, of which 17,000 were immigration-related.¹⁷⁹ The percentage of immigration-related prosecutions increased in 2008, reaching an all time high of 49.2 percent of all prosecutions.¹⁸⁰ Moreover, data from the United States Department of Justice and analyzed by the Syracuse University-based Transactional Records Access Clearinghouse (TRAC) shows that the government reported 8,813 new immigration convictions during January 2009, reflecting an 97 percent increase from similar convictions of the same time period in the previous year.¹⁸¹ The TRAC study highlights the spike in immigration convictions, stating that such convictions increased by 219 percent from 2004.¹⁸²

Most immigration-related prosecutions are brought by components of DHS under three sections contained in Title 8 of the United States Code: Bringing in and harboring certain aliens, Entry of alien at improper time or place, and Reentry of deported aliens.¹⁸³ Talking to the *Dallas Morning News* in early 2009, former U.S. Attorney Richard Roper stated that as the docket of immigration cases increases, "[t]he practical effect is it hurt our ability to prosecute white-collar fraud." He continued, "If we don't do them in the U.S. attorney's office they won't get done because they are so

¹⁷⁷ INA § 266(b), 8 U.S.C. § 1306(b) (2006). "Any alien or any parent or legal guardian in the United States of any alien who fails to give written notice to the Attorney General, as required by section 265 of this title, shall be guilty of a misdemeanor and shall, upon conviction thereof, be fined not to exceed \$200 or be imprisoned not more than thirty days, or both. Irrespective of whether an alien is convicted and punished as herein provided, any alien who fails to give written notice to the Attorney General, as required by section 265, shall be taken into custody and removed in the manner provided by chapter 4 of this title, unless such alien establishes to the satisfaction of the Attorney General that such failure was reasonably excusable or was not willful."

¹⁷⁸ Daniel C. Richman, *Political Control of Federal Prosecutions—Looking Back and Looking Forward* 2088 (Columbia Law Sch. Pub. Law & Legal Theory, Working Paper No. 08-187, 2008), available at <http://ssrn.com/abstract=1289434>. See also Dep't of Justice, United States Attorneys Mission Statement, <http://www.usdoj.gov/usao/> (listing the number of U.S. Attorneys) (last visited Apr. 15, 2010).

¹⁷⁹ Richman, *id.* at 2088.

¹⁸⁰ *Id.*

¹⁸¹ TracReports, Prosecutions for Jan. 2009, Immigration and Customs in Homeland Security, <http://trac.syr.edu/tracreports/bulletins/hsaa/monthlyjan09/fil/> (last visited Apr. 15, 2010). Please note that this data is continually updated, and the above numbers may no longer be accurate at the time of publication.

¹⁸² *Id.* More recent data shows that in May 2009 ICE referred 2147 new prosecutions to the DHS, showing an increase by 18.9 percent from the previous month. According to TRAC, "These data suggest that at least through the first five months of the Obama Administration there has been no let up in the increase in criminal prosecutions as a result of ICE's enforcement activities." TracReports, ICE Criminal Prosecutions Continue to Rise Under Obama, <http://trac.syr.edu/immigration/reports/216/> (last visited Apr. 15, 2010).

¹⁸³ TracReports, *supra* note 181.

labor-intensive. It is difficult for the local district attorney's office to handle that."¹⁸⁴

The foregoing analysis raises important questions about prosecutorial discretion in both the criminal and civil contexts. For example, what does the fact that nearly one half of federal prosecutions have been immigration-related which, in effect reduced the number of white-collar prosecutions, suggest about the government's use of resources and priorities? As in the criminal context, are there outdated or somewhat excessive civil immigration punishments in the INA that call for DHS to modify the current guidance on prosecutorial discretion? Does the surge in immigration-related prosecutions call for the Department of Justice to modify its current guidance on prosecutorial discretion so that precious criminal law enforcement resources are not disproportionately spent on immigration-related misdemeanors at the expense of prosecuting serious felonies?

C. Differences Between Prosecutorial Discretion in the Criminal and Immigration Contexts

There are two important differences between prosecutorial discretion in the criminal context and the immigration arena. First, the differing legal procedures and standards between criminal and civil immigration systems are notable. In the criminal context, police officers bear the power to arrest while the prosecutor holds authority to bring charges against a particular individual. Contrast this with the immigration context, where the immigration officer bears both the power to arrest and the power to bring charges.¹⁸⁵ Moreover, in the criminal system, a defendant is generally required to come before a judge or magistrate within 48 hours.¹⁸⁶ Under the immigration system, the regulations contain a 48 hour timeframe for making a charging or custody determination.¹⁸⁷ However, the regulation also contains an exception to the 48 hour rule "in the event of an emergency or other extraordinary circumstance in which case a determination will be made within an additional reasonable period of time."¹⁸⁸ Similarly, neither the regulations nor the INA contain a timeframe for serving an arrested noncitizen with charging papers, or NTA, or filing such papers with the immigration court. In most cases,

¹⁸⁴ Dianne Solis, *Immigration Prosecutions Surge Under Bush's Watch*, DALLAS MORNING NEWS, Jan. 13, 2009, available at <http://www.dallasnews.com/sharedcontent/dws/dn/latestnews/stories/011309dnmetimmigprosecute.404437c.html>.

¹⁸⁵ See generally INA § 287, 8 U.S.C. § 1357 (2006); 8 C.F.R. § 287 (2009).

¹⁸⁶ DAVIS, ARBITRARY JUSTICE, *supra* note 127, at 24.

¹⁸⁷ 8 C.F.R. § 287.3(d) (2009).

¹⁸⁸ *Id.*

immigration defendants will not see a judge until the NTA is filed with the court and the initial hearing is scheduled. Furthermore, unlike the criminal system, the civil immigration system does not include a grand jury to secure felony charges. Finally, people who are charged with crimes are normally represented by a public defender at the government's expense.¹⁸⁹ Contrast this with the civil immigration system, where noncitizens facing removal are not provided a government attorney but may secure counsel at their own expense. The practical effect is that most noncitizens and unlawfully held United States citizens navigate the removal process and related court hearings alone.¹⁹⁰

Second, there are meaningful differences in the factors influencing whether to prosecute a crime that do not necessarily apply to the immigration context. Some of the variables that exist with respect to a criminal prosecutor's decision to prosecute include: the existence of exculpatory evidence, the possession of physical evidence, the number of witnesses, the availability of corroborative evidence, the relationship between the victim and the defendant, the use of a weapon at the scene of the crime, and whether the case involved victim provocation.¹⁹¹ One set of research reveals a significant link between the initial decision to prosecute and the desire to avoid uncertainty.¹⁹² Reviewing the basis of uncertainty in the criminal context is beyond the scope of this article. Nonetheless, such sources of research are by no means free from subjectivity and

¹⁸⁹ U.S. CONST. amend VI. "In all criminal prosecutions, the accused shall enjoy the right to a speedy and public trial, by an impartial jury of the State and district wherein the crime shall have been committed, which district shall have been previously ascertained by law, and to be informed of the nature and cause of the accusation; to be confronted with the witnesses against him; to have compulsory process for obtaining witnesses in his favor, and to have the Assistance of Counsel for his defense."

¹⁹⁰ INA § 292, 8 U.S.C. § 1362 (2006). *See also* Resolution, American Bar Association House of Delegates, ABA Policies on Issues Affecting Immigrants and Refugees (2006), *available at* <http://www.abanet.org/intlaw/policy/humanrights/immigration2.06107A.pdf> (citing to I.N.A. § 292). Related studies and analyses include: Andrew I. Schoenholtz & Hamutal Bernstein, *Improving Immigration Adjudications Through Competent Counsel*, 21 GEO. J. LEGAL ETHICS 55 (2008); Jaya Ramji-Nogales, Andrew Schoenholtz & Philip G. Schrag, *Refugee Roulette: Disparities in Asylum Adjudication*, 60 STAN. L. REV. 295 (2007); Andrew I. Schoenholtz & Jonathan Jacobs, *The State of Asylum Representation: Ideas for Change*, 16 GEO. IMMIGR. L.J. 739, 746 n.53 (2002); Donald Kerwin, *Revisiting the Need for Appointed Counsel*, INSIGHT (Migration Policy Institute), Apr. 2005, *available at* http://www.migrationpolicy.org/insight/Insight_Kerwin.pdf.

¹⁹¹ *See generally* Albonetti, *supra* note 127. *See also* U.S. ATTORNEY'S MANUAL § 9-27.230 (1997).

¹⁹² As specified by one scholar: "Sources of uncertainty are directly related to organizationally and professionally defined measures of success. More specifically, the findings indicate that the exercise of prosecutorial discretion at the initial stage of felony screening is significantly influenced by the uncertainty of the assessment of the prosecutorial merit of a case, which is the probability of conviction. Uncertainty is significantly reduced with the introduction of certain legally relevant evidence. ...Achieving a good ratio of convictions to acquittals is a well known criterion for upward movement in the legal profession." Albonetti, *supra* note 127, at 311.

socially defined factors. Political considerations also influence prosecutorial decisionmaking. As described by one scholar, “[p]rosecutorial success, which is defined in terms of achieving a favorable ratio of convictions to acquittals, is crucial to a prosecutor’s prestige, upward mobility within the office and entrance into the political arena.”¹⁹³

Not surprisingly, the above-described variables do not apply neatly to the civil immigration context. For example, most immigration-related arrests do not involve a “victim” (the same can be said for some criminal offenses such as possession). Another key difference might rest on priority—for example, if the government’s priority is to arrest and prosecute noncitizens working with fictitious social security numbers, or those from a particular nationality or religion, some of the variables outlined above are irrelevant. Moreover, the burden of proof on the government in a civil immigration proceeding is lower than the criminal burden of proof standard.¹⁹⁴ By extension, it could be argued that the pieces of evidence required to prove guilt in the criminal context are greater.

Some research also points to “extralegal” factors, such as race and gender, which influence prosecutorial decisionmaking.¹⁹⁵ On the other hand, a synopsis of research from Lauren O’Neill Shermer and Brian D. Johnson suggests that the empirical data is mixed.¹⁹⁶ For example, they point to a study of 400 burglary and robbery cases in Jacksonville, Florida by Celesta Abonetti finding no evidence of race or gender influencing the prosecutor’s decision to reduce initial charges.¹⁹⁷ Shermer and Johnson also identify studies in which minority offenders were treated more favorably than their non-minority counterparts in charging decisions.¹⁹⁸ Relying on data from the Federal Justice Statistics Program, Shermer and Johnson’s own research analyzed potential social inequalities related to prosecutorial decisions in the federal courts and found that extralegal characteristics such as age, race and gender had little influence on charge reduction decisions.¹⁹⁹ Importantly, the Shermer and Johnson analysis is

¹⁹³ Shermer & Johnson, *supra* note 127, at 11.

¹⁹⁴ See, e.g., INA § 240(c), 8 U.S.C. § 1230(c) (2006).

¹⁹⁵ See, e.g., Shermer & Johnson, *supra* note 127, at 1; DAVIS, ARBITRARY JUSTICE, *supra* note 127, at 6–7; LEADERSHIP CONFERENCE ON CIVIL RIGHTS, JUSTICE ON TRIAL: RACIAL DISPARITIES IN THE AMERICAN CRIMINAL JUSTICE SYSTEM (2000), available at <http://www.civilrights.org/publications/justice-on-trial>.

¹⁹⁶ For an excellent synopsis of prior research on prosecutorial decisionmaking, see Shermer & Johnson, *supra* note 127, at 5.

¹⁹⁷ Shermer & Johnson, *supra* note 127, at 6.

¹⁹⁸ *Id.* at 6–7.

¹⁹⁹ *Id.* at 14 (“The FJSP collects and collates data from multiple federal agencies, including the AOUSC and USSC. The FJSP creates a unique identification number that that allows federal offenders

limited to charge reduction decisions, and therefore does not address potential disparities during other critical stages of prosecutorial decisionmaking.²⁰⁰ To the extent that prosecutorial discretion in the immigration context operates with similar cost and justice-related theories as the criminal one but with far fewer safeguards, oversight and accountability of prosecutorial decisionmaking in immigration matters is vital.

Despite the important lessons to be drawn from the criminal context, there are four potential drawbacks of using the criminal system to analyze how the immigration agency should implement prosecutorial discretion. First, unlike criminal defendants, noncitizens are subject to civil immigration laws and by extension do not have the guarantee of court appointed counsel if they are unable to afford one, and do not benefit from a division of power between the arresting officer, prosecutor and grand jury. Second, due to the absence of a legal standard, or in some cases the latitude of certain rules, noncitizens are vulnerable to prolonged detention without timely charges, service of charges, or scheduling of a hearing before a judge. Moreover, noncitizens confined by DHS are typically incarcerated in correctional facilities used to hold the criminal population, raising significant questions about the appropriateness and conditions of such confinement. Third, even if the government were to consider applying the safeguards and processes in the criminal system to the civil immigration one, the costs associated with such an application, among them a grand jury process and a trial by jury, would pose serious resource constraints to the government given the large number of noncitizens who interact with immigration law enforcement each fiscal year.²⁰¹ Fourth, and related to the foregoing analysis about the factors influencing prosecution, are the diminished incentives by DHS to forgo prosecution and avoid

to be tracked across the stages of the federal justice system.”). According to Shermer and Johnson, of particular interest in the present study is the possibility of offender disparities associated with prosecutorial charge reductions. If prosecutors systemically rely on offender characteristics like age, race, and gender when deciding charge reductions, then unwarranted differences in justice are likely to characterize the federal punishment process. The present results offer relatively little support for this overarching contention. With regard to offender age, there was no evidence that younger offenders were less likely to receive charge reductions, at least not in any way that lowered the statutory maxima. Similarly, the race and ethnicity of the offender exerted no direct influences on federal charge reductions – black and Hispanic offenders were no less likely to have their charges reduced than whites. *Id.* at 27–28. But note “[a]lthough systemic charging disparities do not appear to characterize the entire federal justice system, then, important differences do emerge for certain offenders convicted of certain offenses. This may suggest that prosecutorial reliance on stereotypical patterned responses is particularly likely when both offender and offense categorizations feed into common attributions of dangerousness and culpability.” *Id.* at 28. *See also id.* at 31.

²⁰⁰ *Id.* at 1.

²⁰¹ *See, e.g.,* DEP’T OF HOMELAND SEC., OFFICE OF IMMIGRATION STATISTICS, ANNUAL REPORT, IMMIGRATION ENFORCEMENT ACTIONS: 2008, available at http://www.dhs.gov/xlibrary/assets/statistics/publications/enforcement_ar_08.pdf; *see generally* Legomsky, *supra* note 173.

removal. Immigration scholar and professor Nancy Morawetz highlights the differences between criminal and immigration cases:

I think there is a false analogy with the criminal cases. In criminal cases the criminal prosecutor has to think about the strength of the evidence, the difficulty of proceeding with the case, and the prosecutorial priorities of the office. In contrast in immigration, it tends to be little work to have the case proceed in court. As a result, there are no institutional disincentives to having the immigration court dispose of the case. As a practical matter, once someone is in [removal] proceedings, it is easier for the ICE trial attorney to prove removal than it is to write a memo to get superiors to agree to exercise discretion.²⁰²

Even more striking than the practical similarities and differences between prosecutorial discretion in immigration affairs and criminal matters, is the relationship between the argument of this article, namely that the enormous impact of immigration enforcement actions on the noncitizens and their families requires prosecutorial discretion to be administered with strong guidelines and safeguards, and the premise of the criminal prosecutor's manual, namely that the enormous impact of prosecution on the accused and his family call for a sound policy on prosecutorial discretion. While scholars and lawyers can debate the meaningful differences between the consequences of civil deportation on the one hand and criminal punishment on the other, the shared normative question about how these consequences affect the individual and his family is exceptional.

IV. LESSONS FROM ADMINISTRATIVE LAW

A. Prosecutorial Discretion and Judicial Review

A discussion about rulemaking in administrative law serves as an important foundation for the recommendation that rulemaking should be utilized to clarify the criteria and process for deferred action. Enacted in 1946, the Administrative Procedures Act is the leading statute governing the administrative process. Stephen G. Breyer, Richard B. Stewart, Cass R. Sunstein and Adrian Vermeule identify four kinds of agency decisionmaking: 1) formal on the record adjudication, 2) formal on the record rulemaking, 3) informal notice and comment rulemaking, 4)

²⁰² Telephone Interview with Nancy Morawetz, Immigration Scholar and Professor, New York University (July 15, 2009).

informal adjudication.²⁰³ The APA contains multiple sections related to the rulemaking process.²⁰⁴

Under the APA, notice of proposed rulemaking by the agency must be published in the Federal Register or personally served on affected individuals not less than 30 days before the effective date of the rule.²⁰⁵ In addition, section 553 of the APA requires that individuals be given an opportunity to comment on a proposed rule, after which the agency is required to consider relevant factors and include a statement of purpose in the newly minted rule.²⁰⁶ While the procedures outlined in 553(c) of the APA are identified by administrative law scholars as “informal rulemaking,” the process itself is by no means informal and in fact may be more appropriately classified as “substantive rulemaking.” Importantly, the APA contains the following exceptions to the substantive rulemaking requirements: 1) interpretative rules, general statements of policy, or rules of agency organization, procedure, or practice; or 2) when the agency makes a good cause showing that notice and public procedure thereon are impracticable, unnecessary, or contrary to the public interest.²⁰⁷ Kenneth Culp Davis declared the notice and comment rulemaking procedures of the APA “one of the greatest inventions of modern government,” and advocated for greater rulemaking in order to increase public participation in and judicial review of agency decisions and policy.²⁰⁸

B. Agency Rulemaking and Judicial Review

As a general matter, the APA provides for comprehensive judicial review over agency actions.²⁰⁹ There are two notable exceptions that apply when “statutes preclude judicial review or agency action is committed to agency discretion by law.”²¹⁰ As elucidated in the next section, the

²⁰³ ADRIAN VERMUELE, RICHARD B. STEWART & CASS R. SUNSTEIN, *ADMINISTRATIVE LAW AND REGULATORY POLICY* 489 (Stephen G. Breyer ed., 6th ed. 2006).

²⁰⁴ See, e.g., 5 U.S.C. §§ 551, 553, 555 (2009); 7 U.S.C. §§ 701-02, 704, 706 (2009).

²⁰⁵ 5 U.S.C. § 553 (2009).

²⁰⁶ *Id.*

²⁰⁷ *Id.*

²⁰⁸ Richard Thomas, *Prosecutorial Discretion and Agency Self-Regulation: CNI v. Young and the Alfatoxin Dance*, 44 ADMIN. L. REV. 131, 137–38 (1992) (citing to KENNETH CULP DAVIS, DISCRETIONARY JUSTICE: A PRELIMINARY INQUIRY (1969)). See also Ronald M. Levin, *The Administrative Law Legacy of Kenneth Culp Davis*, 42 SAN DIEGO L. REV. 315, 317 (2005) (citing to KENNETH CULP DAVIS, *ADMINISTRATIVE LAW TREATISE* §6.15 (Supp. 1970)). Kenneth Culp Davis was a seminal scholar whose *Administrative Law Treatise* became a leading authority in administrative law. According to his former pupil and administrative law scholar Ronald M. Levin, “With Davis’s capacity for broad research, incisive analysis, and moral passion on full display, the treatise immediately overshadowed all prior work in the area.”

²⁰⁹ 5 U.S.C. §§ 702, 704, 706 (2006).

²¹⁰ 5 U.S.C. § 701(a) (2006).

Supreme Court has also recognized the statutory provision eliminating judicial review over deferred action and general acts of prosecutorial discretion.²¹¹ The relationship between informal rulemaking and judicial review has been analyzed by the courts under two paradigms. According to Richard Thomas, the first paradigm, known as the “old ‘new administrative law’ paradigm,” is consistent with the rule-making proposition by Wildes.²¹²

The second paradigm, identified by Thomas as the “newer” administrative law paradigm, is more tolerant of agency discretion and limited judicial review.²¹³ This newer model is reflected in the seminal decision *Heckler v. Chaney*.²¹⁴ In that case, the Petitioner was the Food and Drug Administration (FDA) and the Respondents were inmates who had been sentenced to death by lethal injection of drugs.²¹⁵ The Respondents argued that the use of such drugs violated another statute called the Federal Food, Drug, and Cosmetic Act (FDCA) and therefore requested that the FDA take “enforcement actions” in order to prevent these violations.²¹⁶ The FDA “refused their request.”²¹⁷ The question for the Court was whether the FDA’s refusal to take the enforcement actions was precluded from judicial review under the Administrative Procedure Act. The Court answered this question in the affirmative, concluding that the FDA’s decision not to take the enforcement actions was “presumptively unreviewable.”²¹⁸

On the other hand, the older “rule-based” model was reflected in the D.C. Circuit case *Community Institute v. Young (CNI II)*.²¹⁹ The District Circuit Court of Appeals (DC Circuit Court) analyzed whether the FDA policy controlling aflatoxin levels in corn operated as a rule subject to the normal notice and comment procedures.²²⁰ The FDA argued that the formal notice and comments requirements under section 553 of the APA did not apply because of the exception contained in that same section for

²¹¹ INA § 242(g) (2006); *Reno v. AADC*, 525 U.S. 471 (1999).

²¹² Thomas, *supra* note 208, at 132.

²¹³ *Id.* at 133.

²¹⁴ *Heckler v. Chaney*, 470 U.S. 821 (1985).

²¹⁵ *Heckler v. Chaney*, 470 U.S. 821 (1985).

²¹⁶ *Heckler*, 470 U.S. at 823.

²¹⁷ *Id.* at 823.

²¹⁸ *Heckler*, 470 U.S. at 832–33. *See also* Administrative Procedure Act [APA], 5 U.S.C. § 701(a)(2) (2006).

²¹⁹ Thomas, *supra* note 208, at 132; *Community Nutrition Inst. v. Young*, 818 F.2d 943 (D.C. Cir. 1987).

²²⁰ *CNI II*, 818 F.2d 943, 943 n.1. “Aflatoxins are by-products of certain common molds that grow on various crops, including corn.”

“interpretative rules or policy statements.”²²¹ In the FDA’s view, the contamination levels published in the Federal Register constituted general statements of policy. On the other hand, CNI argued that the FDA action levels operated as a rule and therefore was subject to notice and comment rulemaking. Agreeing with CNI, the Circuit Court held the following:

We conclude that in the circumstances of this case, FDA by virtue of its own course of conduct has chosen to limit its discretion and promulgated action levels which it gives a present, binding effect. Having accorded such substantive significance to action levels, FDA is compelled by the APA to utilize notice-and-comment procedures in promulgating them.²²²

Critics of the *CNI II* decision argue that by imposing notice and comment requirements on FDA, the court created a disincentive for agencies to self-regulate. Thomas explains how such an imposition can create a disincentive:

By subjecting agencies not only to the threat of judicial review but also to notice and comment requirements whenever an agency’s own prosecutorial policy begins to take on a self-binding character, the court actually encourages agencies to rely on less binding, and potentially more arbitrary and hidden, case-by-case discretion, which involves none of the burdens of APA rulemaking and judicial review.²²³

Thomas also argues that even the greatest advocates of a “rule based” model would agree that a strong internal rule administered by the agency may be more effective in preventing discretionary abuse and misconduct than external checks.²²⁴ He sees the articulation of *Chaney* and *CNI II* as a reflection of the unfinished debate between the two administrative law models: one that favors unchecked agency discretion, and the other which supports rulemaking subject to external checks by the judiciary and public.²²⁵ While Thomas’ call for Congress and the courts to support sound agency self-regulation is a potentially beneficial one, it is far from

²²¹ *CNI II*, 818 F.2d at 949.

²²² *Id.* at 949.

²²³ Thomas, *supra* note 208, at 152.

²²⁴ *Id.* at 152 n.126.

²²⁵ *Id.*

clear that this alone will achieve the fairness and regularity possible through notice and comment rulemaking.

C. Application of Notice and Comment Rulemaking to Deferred Action

Early opinions by the courts have analyzed whether the Operations Instruction on deferred action operates as a substantive rule subject to notice and comment rulemaking under the APA. In most cases, the courts have held that the Operations Instruction does not create a substantive right, but instead operates as an internal guideline or general statement of policy.²²⁶ One exception is the Ninth Circuit case *Nicholas v. INS* in which the court found that the 1978 Operations Instruction operated like a substantive benefit:

It is obvious that this procedure exists out of consideration for the convenience of the petitioner, and not that of the INS. In this aspect, it far more closely resembles a substantive provision for relief than an internal procedural guideline.... Delay in deportation is expressly the remedy provided by the Instruction. It is the precise advantage to be gained by seeking non-priority status. Clearly, the Instruction, in this way, confers a substantive benefit upon the alien, rather than setting up an administrative convenience.²²⁷

As recounted earlier, the INS modified the Operations Instruction in 1981 to clarify that deferred action was a discretionary act as opposed to a formal benefit. The impact of treating the Operations Instruction as a general statement of policy allowed the INS to amend and to remove the once “mandatory” nature of the Operations Instruction without public notice or comment. Likewise, it permitted the courts to uphold decisions by the agency to deferred action status to particular individuals regardless of their equities. Finally, the court traffic over the question of whether the Operations Instruction was a substantive rule inspired the explicit language contained in current agency memoranda that prosecutorial acts are discretionary, immune from judicial review and under no terms an

²²⁶ See, e.g., *Pasquini v. Morris*, 700 F.2d 658, 661 (11th Cir. 1983); *Soon Bok Yoon v. INS*, 538 F.2d 1211, 1213 (5th Cir. 1976); *Lennon v. INS*, 527 F.2d 187 (2d Cir. 1975); *Wan Chung Wen v. Ferro*, 543 F. Supp. 1016 (W.D.N.Y. 1982); *Zacharakis v. Howerton*, 517 F.Supp. 1026, 1027–28 (D. Fla. 1981). See, *Velasco-Gutierrez v. Crossland*, 732 F.2d 792, 798 (10th Cir. 1984). See also *Siverts v. Craig*, 602 F. Supp. 50, 53 (D.Haw. 1985) (construing 1981 instruction).

²²⁷ *Nicholas v. INS*, 590 F.2d 802, 807 (9th Cir. 1979).

“entitlement” to the noncitizen.²²⁸

Based on his scholarship on deferred action, administrative law jurisprudence, data from more than 1800 approved deferred action cases, and the *Nicholas* holding, Leon Wildes argues that the Operations Instruction should be recognized as a substantive rule under the APA:

In accordance with a well-established principle of administrative law, a written expression of “policy” may be a rule and have the impact of a rule, regardless of how the agency attempts to designate or describe it. The Operations Instructions thus appears to be a firm rule. As such, it should probably be subject to the notice and publication requirements of the Administrative Procedure Act.²²⁹

With a spirit similar to Kenneth Davis, Leon Wildes highlights the need for subjecting deferred action to notice and comment rulemaking:

The Service should rightfully be constrained by all the safeguards of the Administrative Procedure Act with respect to its policies, whether they be published or promulgated through the Operations Instructions, regulations, or other means. With the weight of the entire government against the alien, he should be entitled to rely upon the fact that the government will at least be bound by its own directives.²³⁰

Following the Wildes proposal, courts continued to interpret the deferred action program as a general statement of policy exempt from the

²²⁸ See, e.g., Memorandum from Doris, *supra* note 3, at 3; Memorandum from Julie L. Myers, *supra* note 95.

²²⁹ Wildes, *Operations Instructions*, *supra* note 6, at 106. One notable case summarized by Wildes, perhaps notable because of the author’s residence in Pennsylvania, is a district court case *Parco v. Morris* in which the former INS Director conceded that petitioner was denied extended voluntary departure solely because of the rescission of an Operations Instruction. The court held that INS was, in practical terms, abiding by an inflexible rule issued by the Immigration Service. The Parco court went on to argue that the Operations Instruction had a “substantial impact” on the petitioner and therefore was subject to the standards identified in the Administrative Procedures Act. *Id.* at 113. See also *id.* at 107 (“[t]he particular label placed on it by the Commission is not necessarily conclusive for it is the substance of what the Commission has purported to do and has done which is decisive.”) (citing *Columbia Broad. Sys. Inc. v. United States*, 316 U.S. 407 (1942)).

²³⁰ Wildes, *Operations Instructions*, *supra* note 6, at 118–19 (citing to 44 Fed. Reg. 26,187 (May 4, 1979)).

APA's notice and comment requirements.²³¹ Nevertheless, select agency acts of prosecutorial discretion, such as deferred action, which utilize prescribed criteria to enable individuals to avoid removal and in some cases be gainfully employed, should be subject to APA rulemaking and meaningful judicial review.

D. Proposed Rulemaking on Administrative Discretion

In an effort to create clearer guidelines for INS officers and employees, INS issued a notice of proposed rulemaking intended to at least specify the relevant factors to be considered in applying several kinds of discretionary benefits.²³² Published in 1979, the proposed rules included amendments to Chapter 1 of Title 8 of the Code of Federal Regulations.²³³ Several provisions of these proposed regulations would have required a favorable exercise of discretion in the absence of adverse factors. For example, with regard to the exercise of discretion under the former 212(c) waiver,²³⁴ the rule identified the following factors for consideration in the exercise of discretion: "alien is likely to continue type of activity which gave rise to the grounds of excludability; alien has a history of criminal, immoral, narcotic, or subversive activity; act giving rise to grounds of excludability was relatively recent; no unusual hardship would accrue to alien or family members if the waiver is denied."²³⁵

The rulemaking effort was abandoned in January 1981. The INS concluded that "[l]isting some factors, even with the caveat that such list is not all inclusive, poses a danger that use of guidelines may become so rigid as to amount to an abuse of discretion."²³⁶ The agency insisted that it was "impossible to list or foresee all of the adverse or favorable factors which may be present in a given set of circumstances," and cancelled the proposal "[t]o avoid the possibility of hampering the free exercise of discretionary authority."²³⁷ The INS also argued that the rules would "eliminate discretionary powers by converting discretionary powers into a body of

²³¹ See, e.g., Wildes, *Operations Instructions*, *supra* note 6. See also *Mada-Luna v. Fitzpatrick*, 813 F.2d 1006 (9th Cir. 1987).

²³² Factors To Be Considered in the Exercise of Administrative Discretion, 44 Fed. Reg. 36187 (June 21, 1979); Steven O. Ludd, *Administrative Discretion and the Immigration and Naturalization Service: To Review or Not to Review?*, 8 T. MARSHALL L. REV. 65, 78 (1982).

²³³ 44 Fed. Reg. 36187 (June 21, 1979); Ludd, *supra* note 232, at 78.

²³⁴ 44 Fed. Reg. 36187 at 36189 (June 21, 1979). The 212(c) waiver was a discretionary waiver available to certain Lawful Permanent Residents "is returning to a lawful, unrelinquished domicile of seven consecutive years." 8 U.S.C. 1182(c) (1976). The discretionary component included a balancing test of adverse and favorable factors outlined in case law. *Id.*

²³⁵ 44 Fed. Reg. 36187 at 36189 (June 21, 1979).

²³⁶ 46 Fed. Reg. 9119 (Jan. 28, 1981).

²³⁷ *Id.*

law.”²³⁸ The tension described by the INS between taking steps to limit arbitrary discretion on one hand, and the difficulty of multiple relevant factors on the other is an important one. Nevertheless, some scholars and practitioners have questioned the INS’s decision to abandon the rule and the notable absence of empirical data to show that rulemaking on administrative discretion led to administrative paralysis.²³⁹ Moreover, to the extent that the proposed rules would have created a new “body of law” such a creation may not be entirely without merit.²⁴⁰ Administrative law scholar Steven Ludd claims that the denial and granting of petition for relief from the INS should receive greater protection:

Following the [INS’s] own logic, aren’t the substantive issues surrounding the application of administrative discretion “benefits” in the truest sense of the word? Certainly the denial and granting of petition for relief from the INS through its discretionary mechanisms should receive at least as much due process protection as those accorded a petitioner within the quasi-adjudicative hearing process of the agency where other types of “benefits” accrue.²⁴¹

Similarly, the INS-created correlation between the creation of a rule and minimizing abuse of discretion claims is tenuous as it is equally possible that the absence of such a rule would expand random decisionmaking.²⁴² Although a broader theoretical discussion about whether consistency leads to greater justice is beyond the scope of this article, it is necessary to note that uniformity and equity were the very concerns identified by the INS when proposing the rules in 1979.²⁴³

While the proposed rule analyzed above pertains primarily to formal applications for particular immigration benefits or relief from deportation, it remains relevant to prosecutorial discretion for at least two reasons. First, the content of the rule listed criteria and factors for exercising discretion that are similar in nature to the factors used in exercising prosecutorial discretion. Second, the history and intentions of the INS to create a rule through the notice and comment process and later to rescind it without explanation both highlight the relevance of administrative law and

²³⁸ *Id.*

²³⁹ See, e.g., Ludd, *supra* note 232, at 80–81.

²⁴⁰ See, e.g., *id.* at 82; Wildes, *Deferred Action*, *supra* note 8, at 824.

²⁴¹ Ludd, *supra* note 232, at 82.

²⁴² See, e.g., *id.* at 81.

²⁴³ 44 Fed. Reg. 36,187 (June 21, 1979).

strengthen the argument for subjecting select actions of prosecutorial discretion to notice and comment rulemaking.

DHS's failure to recognize deferred action as a rule has left noncitizen grantees vulnerable to removal at a future date while alienating a countless number of qualified noncitizens from having knowledge about deferred action. The APA provides a sound structure and process for implementing deferred action as a rule. In light of the personal consequences of capricious immigration enforcement and the indefinite status deferred action provides to individuals who present humanitarian equities, promulgating a rule on deferred action is essential.

V. LIMITATIONS OF PROSECUTORIAL DISCRETION

A. Prosecutorial Discretion and Judicial Review

The limitations of prosecutorial discretion have been spelled out by the federal agency and by the courts.²⁴⁴ Perhaps the greatest limitation is the agency's virtual immunity from judicial review.²⁴⁵ The Supreme Court's reluctance to permit judicial review over prosecutorial discretion dates back to the nineteenth century with the Confiscation Cases.²⁴⁶ Administrative Law scholar Richard Pierce rationalizes the Court's historical refusal to recognize judicial review over a prosecutor's decision:

The list of reasons is long and formidable. It begins with the Court's awareness that no prosecutor has access to all of the investigative and prosecutorial resources required to prosecute all violations of law within his jurisdiction. That problem has increased over the years as legislative bodies have added tens of thousands of new statutory commands and prohibitions. Every prosecutor must engage in selective investigation of prosecution.²⁴⁷

²⁴⁴ See, e.g., *Heckler v. Chaney*, 470 U.S. 821 (1985); *Reno v. Am.-Arab Anti-Discrimination Comm.*, 525 U.S. 471 (1999); *In Re Bahta*, 22 I. & N. Dec. 1381, 1391–92 (Bd. of Immigr. Appeals 2000); Memorandum from Doris Meissner, *supra* note 3. But some courts have identified the validity of the agency's exercise of prosecutorial discretion. See *Bahta*, 22 I. & N. Dec. at 1392 ("The Service may choose to further examine this issue on remand. However, there should be no question within the Service that prosecutorial discretion, and its important concomitant responsibilities, continues to exist.").

²⁴⁵ See, e.g., *Heckler v. Chaney*, 470 U.S. 821 (1985); *Reno v. AAADC*, 525 U.S. 471; *Bahta*, 22 I. & N. Dec. 1381.

²⁴⁶ RICHARD J. PIERCE, JR., *ADMINISTRATIVE LAW TREATISE* 1252 (4th ed. 2002) (citing to the *Confiscation Cases*, 74 U.S. 454 (1868)).

²⁴⁷ *Id.* at 1253.

The Court recognized an exception to the general presumption against reviewability in *Yick Wo v. Hopkins*, based on a claim that the agency's selective enforcement of an ordinance against two hundred Chinese (and zero non-Chinese) was racially motivated.²⁴⁸ Beginning in the 1960's the Supreme Court began to uphold court review over prosecutorial discretion as a general principle. The Court attributed this transition to the Administrative Procedures Act.²⁴⁹

More recently, the Supreme Court has reasoned that an agency's discretionary decisions are generally "presumptively unreviewable" because of the multiple and largely unknown factors considered by the agency in rendering a decision.²⁵⁰ The Court in *Chaney* reasoned, in explaining why review of an agency's decision not to enforce a particular area of law is "unsuitable," that the agency is better equipped than the courts to deal with such a situation:

[A]n agency decision not to enforce often involves a complicated balancing of a number of factors which are peculiarity within its expertise. Thus, the agency must not only assess whether a violation has occurred, but whether agency resources are best spent on this violation or another, whether the agency is likely to succeed if it acts, whether the particular enforcement action requested best fits the agency's overall policies, and indeed, whether the agency has enough resources to undertake the action at all. An agency generally cannot act against each technical violation of the statute it is charged with enforcing. The agency is far better equipped than the courts to deal with the many variables involved.²⁵¹

Hotel & Restaurant Employee Union v. Smith is an important immigration-related case on the standard of judicial review of the former INS's prosecutorial discretion to grant Extended Voluntary Departure.²⁵² In a legal challenge over the Attorney General's decision *not* to extend EVD to Salvadorans, the D.C. Court of Appeals held that his decision constituted "extra-statutory" discretion and was therefore immune from judicial review. The court held, "Where Congress has not seen fit to limit the agency's discretion to suspend enforcement of a statute as to particular

²⁴⁸ *Id.* at 1254.

²⁴⁹ *Id.* at 1258 (citing to *Abbot Laboratories v. Gardner*, 387 U.S. 136 (1967)).

²⁵⁰ *Heckler v. Chaney*, 470 U.S. at 833.

²⁵¹ *Id.* at 831–32.

²⁵² *Hotel and Restaurant Employees Union Local v. Smith*, 846 F.2d 1499 (D.C. Cir. 1988).

groups of aliens, we cannot review facially legitimate exercises of that discretion.”²⁵³

Reno v. AADC is another defining Supreme Court case on the limits of judicial review over discretionary decisions by the immigration agency.²⁵⁴ The respondents in *Reno* argued that the immigration laws were selectively enforced against them in violation of the First and Fifth Amendments of the Constitution based on their membership in Popular Front for the Liberation of Palestine.²⁵⁵ The *Reno* Court analyzed section 242(g) of the INA. INA 242(g) states the following:

Exclusive Jurisdiction—Except as provided in this section and notwithstanding any other provision of law ...no court shall have jurisdiction to hear any cause or claim by or on behalf of any alien arising from the decision or action by the Attorney General to commence proceedings, adjudicate cases, or execute removal orders against any alien under this Act.²⁵⁶

Rather than adopt the respondents’ and petitioner’s view that the provision covers “all or nearly all deportation claims,” the *Reno* Court instead held that 242(g) of the Immigration and Nationality Act extends to three discrete actions—whether to “commence proceedings, adjudicate cases, or execute removal orders.” The Court identified these three acts as discretionary in nature, and went on to cite to one of the leading immigration treatise’s formulation of deferred action:

To ameliorate a harsh and unjust outcome, the INS may decline to institute proceedings, terminate proceedings, or decline to execute a final order of deportation. This commendable exercise in administrative discretion, developed without express statutory authorization, originally was known as nonpriority and is now designated as deferred action treatment. . . Approval of deferred action status means that, for the humanitarian reasons described below, no action will thereafter be taken to proceed against an apparently deportable alien, even on

²⁵³ *Hotel Restaurant Employees Union Local v. Attorney General*, 804 F.2d 1256, 1271–72 (D.C. Cir. 1987).

²⁵⁴ 525 U.S. 471.

²⁵⁵ *Id.* at 473.

²⁵⁶ INA § 242(g), 8 U.S.C. 1252(g) (2006).

grounded normally regarded as aggravated.²⁵⁷

In the view of the *Reno* Court, section 242(g) was “directed against a particular evil: attempts to impose judicial constraints upon prosecutorial discretion.”²⁵⁸ As to the constitutional challenge, the *Reno* Court concluded that “an alien unlawfully in this country has no constitutional right to assert selective enforcement as a defense against his deportation.”²⁵⁹

In furtherance of their holding that selective discretion by the former INS to commence proceedings was not subject to judicial review, the *Reno* Court discussed the role of prosecutorial discretion in the criminal context, and cited the “substantial” concerns such as costs to the courts and the chilling effect on examining the basis of a criminal prosecution.²⁶⁰ The *Reno* Court suggested that the government stakes are much higher in the immigration context because unlike the criminal context where the delay in criminal prosecution may simply delay the punishment, in the immigration context “the consequence is to permit and prolong the continuing violation of the United States law.”²⁶¹ The *Reno* Court also highlighted potential foreign policy and intelligence-based rationales behind prosecutorial decisions in the immigration context and the related damage of such disclosure:

The Executive should not have to disclose its ‘real’ reasons for deeming nationals of a particular country a special threat – or indeed for simply wishing to antagonize a particular foreign country by focusing on that country’s nationals—and even if it did disclose them a court would be ill equipped to determine their authenticity and utterly unable to assess their adequacy.²⁶²

The *Reno* Court’s reasoning is consistent with the Government’s position that selective prosecutions based on nationality may be permissible in the immigration context.²⁶³ The *Reno* Court concluded that while the consequence of deportation is a grave one, it is not

²⁵⁷ *Reno*, 525 U.S. at 484 (citing to C. GORDON, S. MAILMAN, & S. YALE-LOEHR, IMMIGRATION LAW AND PROCEDURE §72.03[2][h] (6th ed. 1998)).

²⁵⁸ *Id.* at n.9.

²⁵⁹ *Id.* at 488.

²⁶⁰ *Id.* at 490.

²⁶¹ *Id.*

²⁶² *Id.* at 491.

²⁶³ See Transcript of Oral Argument, *Reno v. AADC*, 525 U.S. 471 (No. 97-1252).

punishment.²⁶⁴ The Court left a small door open for judicial review:

To resolve the present controversy, we need not rule out the possibility of a rare case in which the alleged basis of discrimination is so outrageous that the foregoing considerations can be overcome. Whether or not there be such exceptions, the general rule certainly applies here. When an alien's continuing presence in this country is in violation of the immigration laws, the Government does not offend the Constitution by deporting him for the additional reason that it believes him to be a member of an organization that supports terrorist activity.²⁶⁵

As the sole dissenter in *Reno*, Justice Souter disagreed with the court that selective prosecution and special rules are permitted in the immigration context. In Souter's view, whether an immigration violation is "ongoing" or whether deportation is "punishment" has no bearing on the interest of avoiding selective prosecution.²⁶⁶ Souter further concludes that the majority's analysis on selective prosecution in the immigration context is dictum and irrelevant to the question before the Court.²⁶⁷ Notwithstanding Souter's belief that the *Reno* court's discussion on selective enforcement was dicta, the practical impact of *Reno* is significant. Gerald Neuman summarizes the implications of the *Reno* decision:

The general lesson of AADC is that so long as an alien is deportable, she is not entitled to know why she was chosen for deportation, and (with a possible exception for especially 'outrageous' reasons, which do not include mere First Amendment objections) the reason is irrelevant to enforcement of removal. Rephrased in the plural, there are large pools of potentially removable aliens, such as illegal entrants and overstays, aliens allowed in through a retractable grant of 'parole' status and even lawful temporary and permanent residents may be or become removable for technical reasons; all of these are subject to selective enforcement. Immigration officials may choose deportees among these pools on (at least many) bases that would otherwise be constitutionally suspect, and they may

²⁶⁴ *Reno*, 525 U.S. at 491 (citing to *Carlson v. Landon*, 342 U.S. 524, 537 (1952)).

²⁶⁵ 525 U.S. at 491–492.

²⁶⁶ 525 U.S. at 511.

²⁶⁷ 525 U.S. at 510.

choose based on standards of conduct that are never revealed and cannot be challenged.²⁶⁸

Responding to Neuman's commentary and as an alternative to judicial review, David Martin suggests that the agency's own watchdogs such as the Justice Department's Office of Internal Audit and the Office of the Inspector General are effective venues for oversight and review of potential misconduct or discretionary abuse by INS officers.²⁶⁹ He also suggests that the independent authority of the Office of the Inspector General and the potential negative exposure that an abusive officer faces on Capitol Hill and in the media provide real mechanisms for self-control of such misconduct.²⁷⁰ While administrative ombudsmen and Congress should take a more robust oversight role, such a role cannot substitute for judicial review. Leaving aside the commentary and reflections on *Reno v. AADC*, a plethora of subsequent decisions by the federal district and appellate courts have cited the decision itself, largely to support a conclusion that selective enforcement is constitutional and that prosecutorial discretion is nearly barred from court review.²⁷¹ Notably, the Meissner memo also cites the *Reno* decision.²⁷² Meanwhile, immigration scholar and author Daniel Kanstroom questions the impact of immunizing prosecutorial discretion from judicial review:

The general disinclination of courts to second-guess such decisions follows patterns established by the criminal justice system. But in the deportation realm, this deferential posture is exacerbated by the plenary power doctrine— if noncitizens have no substantive right to challenge deportation laws on equal protection grounds, then how can they challenge enforcement decisions based on national origin or race?²⁷³

²⁶⁸ Gerald Neuman, *Discretionary Deportation*, 20 GEO. IMMIGR. L.J. 611, 630–631 (2006).

²⁶⁹ David A. Martin, *On Counterintuitive Consequences and Choosing the Right Control Group: A Defense of Reno v. AADC*, 14 GEO. IMMIGR. L.J. 363, 375 (2000). The majority of immigration functions now rest with the DHS, but Martin's commentary on the potential role of the DHS of Justice's oversight entities is applicable to them.

²⁷⁰ *Id.* at 376.

²⁷¹ See, e.g., *Kandamar v. Gonzales*, 464 F.3d 65, 74 (1st Cir. 2006) ("To be sure, Moroccan nationals were required to register with DHS while a person in the same situation but not from one of the NSEERS countries would not have been placed in removal proceedings. However, a claim of selective enforcement based on national origin is virtually precluded by *Reno v. American-Arab Anti-Discrimination Committee*"); see also *Rajah v. Mukasey*, 544 F.3d 427 (2d Cir. 2008).

²⁷² Memorandum from Doris Meissner, *supra* note 3, at 3.

²⁷³ DANIEL KANSTROOM, *DEPORTATION NATION: OUTSIDERS IN AMERICAN HISTORY* 232 (2007).

B. Additional Concerns with the Current Prosecutorial Discretion Model

While the evolution of prosecutorial discretion in the immigration context has been largely commendable, concerns exist on at least two levels. First, to the extent that the Meissner memo is arguably the most authoritative on prosecutorial discretion, enforcement decisions exercised at a macro level by the agency seem inconsistent with the principles outlined in the memo. For example, in the aftermath of September 11, 2001, former Attorney General Ashcroft rolled out a program titled the “National Security Entry and Exit Registration Program (NSEERS)” largely resulting in the “registration” of thousands of visitors from Muslim-majority countries.²⁷⁴ The domestic component of the NSEERS program subjected more than 80,000 men living in the United States to interrogations by immigration officers and fingerprinting and the taking of photographs to document identity. According to the government’s own statistics, nearly 14,000 registrants were charged with immigration violations and nearly 3,000 were detained under this domestic scheme.²⁷⁵ The NSEERS program contained several ironies, including the agency’s discretionary decision to arrest nearly 14,000 young men who voluntarily complied with NSEERS.²⁷⁶ The impact of these arrests on domestic and foreign policy is striking, as is the arguable chilling effect it may have in encouraging others from coming forward to register in the future. A review of subsequent court cases reveals that many men arrested through NSEERS entered the United States on a valid visa, had meaningful family and economic ties to the United States, and had little to no history or indication of future criminal activity, all of which are cited in the Meissner memo as favorable factors.²⁷⁷ In fact, many of the men who were arrested under NSEERS were the very kinds of individuals the Meissner memo suggests should not be targeted for prosecution in the first place.²⁷⁸ It is difficult to align the Meissner memo with the immigration arrests under NSEERS.

²⁷⁴ See generally U.S. ICE, Changes to National Security Entry/Exit Registration System (NSEERS) (Dec. 1, 2003), <http://www.ice.gov/pi/news/newsreleases/articles/nseersqa120103.htm>; AMERICAN-ARAB ANTI-DISCRIMINATION COMMITTEE & PENN ST. U., CTR. FOR IMMIGRANTS’ RIGHTS, NSEERS: THE CONSEQUENCES OF AMERICA’S EFFORTS TO SECURE ITS BORDERS 9 (2009), available at <http://www.adc.org/PDF/nseerspaper.pdf>.

²⁷⁵ U.S. ICE, *supra* note 274; AMERICAN-ARAB ANTI-DISCRIMINATION COMMITTEE, *supra* note 274, at 9.

²⁷⁶ U.S. ICE, *supra* note 274.

²⁷⁷ U.S. ICE, *supra* note 274; AMERICAN-ARAB ANTI-DISCRIMINATION COMMITTEE, *supra* note 274, at 33 *et seq.*

²⁷⁸ U.S. ICE, *supra* note 274; AMERICAN-ARAB ANTI-DISCRIMINATION COMMITTEE, *supra* note 274, at 33 *et seq.*

Similarly, DHS's overwhelming focus on undocumented individuals in households and the workplace replaced any meaningful reliance on the factors discussed in the Meissner memo. According to its website, ICE has deployed about 100 teams nationwide to pursue "fugitive" aliens, defined by ICE as "an alien who has failed to leave the United States based upon a final order of removal, deportation, or exclusion; or who has failed to report to ICE after receiving notice to do so."²⁷⁹ As a practical matter, a meaningful number of these "fugitive aliens" may be unaware of the fact that they received a final order of removal, or may reside in the United States with knowledge of such removal order but otherwise be contributing to an American family, the local economy or their church in significant ways.²⁸⁰ ICE documented the fugitive operations teams' record of more than 34,000 related arrests during fiscal year 2008, more than double those reported in 2006.²⁸¹ In addition to "Fugitive Operations Teams," ICE has devoted a significant number of resources to worksite enforcement.²⁸² According to the ICE Annual Report for 2008 "In FY08, ICE worksite enforcement actions resulted in 1,103 criminal arrests and 5,184 administrative arrests—taken together, a twenty-seven percent increase over the previous year's total arrests in worksite enforcement actions."²⁸³ Together, the surge in residential and workplace enforcement actions has been breathtaking and inconsistent with the agency's historical focus on serious offenders and genuine threats to national security. The priority shift is both troubling and inconsistent with the Meissner memo's own cautionary note about utilizing resources wisely:

Careful design of enforcement operations is a key element in the INS's exercise of prosecutorial discretion. Managers should consider not simply whether a particular effort is legally supportable, but whether it best advances the INS's goals, compared with other possible uses of those resources. As a general matter, investigations that are specifically focused to identify aliens who represent a high priority for removal should be favored over

²⁷⁹ See generally U.S. ICE, ICE Fugitive Operations Program, http://www.ice.gov/pi/news/factsheets/NFOP_FS.htm.

²⁸⁰ See, e.g., Wadhia, *supra* note 97.

²⁸¹ U.S. ICE, ICE Fugitive Operations Program, *supra* note 279.

²⁸² Notably and in contrast to the prior Administration, DHS Secretary Napolitano issued guidance highlighting that ICE will focus worksite enforcement resources on the criminal prosecution of employers. U.S. ICE, Worksite Enforcement Overview, <http://www.ice.gov/pi/news/factsheets/worksite.htm>.

²⁸³ See, e.g., U.S. ICE, FISCAL YEAR 2008 ANNUAL REPORT, available at http://www.ice.gov/pi/reports/annual_report/.

investigations which, by their nature, will identify a broader variety of removable aliens.²⁸⁴

Notwithstanding the foregoing concerns with the current formulation and application of prosecutorial discretion, there exists one remaining challenge. To the extent that an act of prosecutorial discretion indefinitely delays removal and in some cases provides work authorization for groups of individuals who meet the same or similar criteria, it is difficult to conclude that such an act does not constitute a right or benefit for which any individual who appears to possess similar criteria should be eligible to seek or in the case when such a benefit is arbitrarily denied by the agency, challenge in a court of law. This challenge is not overcome simply by virtue of a “no benefit” construction clause contained in the Meissner memo.

The aforementioned analysis elucidates the various limits on prosecutorial discretion with particular focus on the availability of judicial review. While the author appreciates the various arguments against such review, the immigration context presents unique and compelling reasons for strengthening judicial review over prosecutorial discretion decisions. In situations where such discretion is ignored by individual immigration officers or by the agency at a macro level, the impact on individuals and their families can include prolonged incarceration or execution of a removal order, among other actions. Even more troubling is the Court’s extreme definition of the threshold required to prove that enforcement was discriminatory or selective based on race, color, religion, sex, or national origin. Immigration officers should be held accountable when their actions or inactions significantly impact the lives of noncitizens and their families.

VI. RECOMMENDATIONS

A. Improving Standard on Prosecutorial Discretion; Codifying Deferred Action

The Department of Homeland Security should review the array of existing memoranda on prosecutorial discretion and, as practicable, consolidate them into a single memorandum. Unless and until broader structural changes are made to DHS, the new memorandum should clarify that every officer in DHS, including CBP, ICE and USCIS has the authority to exercise prosecutorial discretion. The new memorandum should reaffirm the Meissner memo with an updated narrative

²⁸⁴ Memorandum from Doris Meissner, *supra* note 3, at 6. To its credit, ICE developed guidance for officers conducting worksite raids, but this alone fails to answer the broader question of why ICE focused on nonviolent workers in the first place.

contextualizing the impact of immigration policies following the September 11, 2001 attacks, the emphasis on worksite and residential enforcement over the last eight years, the continued effects of the 1996 immigration laws, and the need for broader legislative reforms. The memorandum should adopt many of the principles outlined in the Meissner memo and also update the list of factors to be considered in the exercise of discretion. This list should identify both macro and micro situations during which favorable discretion should be exercised, among them: 1) during and after a man-made or natural disaster; 2) third parties identified in the course of a worksite or residential raid; 3) individuals potentially eligible for an existing or future immigration benefit; 4) individuals impacted by the National Security Entry and Exit Registration program who are otherwise eligible for a legal immigration benefit; 5) individuals who claim to be a United States citizen; 6) “special populations” including but not limited to children, the elderly, mentally or physically disabled, pregnant women and nursing mothers, sole or primary breadwinners, and asylum seekers or those seeking fear-based protection; and 7) others who present compelling humanitarian equities. Moreover, DHS should disseminate the new memorandum to all relevant personnel. Finally, the memorandum should be published on DHS letterhead and posted on DHS’s website.

In addition, DHS should promulgate a regulation on deferred action for notice and comment under section 553 of the Administrative Procedures Act. The regulation should identify the substantive criteria and procedures for applying for deferred action. The regulation should clarify that beneficiaries of deferred action are eligible for work authorization and travel under “advance parole.” Similarly, DHS should consider providing such benefits for individuals who indefinitely reside in the United States as a consequence of an officer’s favorable exercise of prosecutorial discretion. Finally, the regulation should enable applicants for deferred action to include an immediate family member as a derivative applicant.

B. Strengthening Procedures for Prosecutorial Discretion

1. Identify Cases for Prosecutorial Discretion Early

In keeping with the former Operations Instructions, Meissner memo, and basic economic arguments, the DHS should identify potential cases that may be suitable for prosecutorial review as early as possible in the process.²⁸⁵ For example, DHS should refrain from automatically issuing a Notice to Appear when an individual has humanitarian and public interest-

²⁸⁵ Wildes, *Nonpriority Goes Public*, *supra* note 7, at 50 (citing to a letter dated July 16, 1973 by then INS Assistant Commission Loughran). *See also* Memorandum from Doris Meissner, *supra* note 3, at 4.

related equities, available relief available before an immigration officer, or when the individual is willing to accept an offer of voluntary departure from ICE.²⁸⁶

2. Provide Notice and Training to DHS Personnel on Prosecutorial Discretion

DHS should provide adequate training on prosecutorial discretion. The training should include a forum for exchanging best practices and creating mechanisms for accountability. DHS should ensure that relevant personnel are provided with updates on statutory changes in the law and related guidance in a timely manner.²⁸⁷

3. Require DHS Officers to Document Decisions

In keeping with the Meissner memo, DHS personnel should be required to document decisions to enforce or to refrain from enforcement in the noncitizen's file.²⁸⁸

4. Notice to Noncitizen and Attorney After a Decision is Made

Individuals who receive a favorable exercise of prosecutorial discretion should be notified in writing. The correspondence should also identify the existence and process for any related benefits, such as work authorization. Moreover, it should include an explanation about the limitations of prosecutorial discretion. Finally, a similar letter should be sent to the individual's attorney when applicable.

5. Sustain Favorable Grants of Prosecutorial Discretion by Another Office

DHS personnel should honor cases in which another office has made a favorable exercise of discretion absent a material change in circumstances in the individual's case. DHS must bear the burden of proving such material change.

²⁸⁶ A similar recommendation appears in an Immigration Blueprint submitted to the Obama-Biden Transition Team in November 2008. This blueprint sets forth recommendations in numerous immigration policy areas and reflects input from a diverse group of organizations and individuals. See generally OBAMA-BIDEN TRANSITION PROJECT, IMMIGRATION POLICY: TRANSITION BLUEPRINT (Nov. 16, 2008), available at <http://www.aila.org/content/fileviewer.aspx?docid=27611&linkid=188816>.

²⁸⁷ See generally U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 5..

²⁸⁸ Memorandum from Doris Meissner, *supra* note 3, at 11–12.

C. Increasing Oversight and Accountability

1. Create a Professional Code of Conduct for DHS Officers

Similar to what Angela Davis has recommended for the criminal system, a separate code of conduct for immigration officers should be considered.²⁸⁹ This code should be created by an agent outside of ICE, CBP, and USCIS. For example, the code could be created by DHS's Office of Policy or even by an outside entity such as the American Bar Association or possibly the EOIR. The content for this professional code should include not only a description of the different stages during which an officer may exercise prosecutorial discretion but also a set of guidelines that are consistent with the newly proposed memorandum identified above. Similarly, the code should create a process whereby public and government employees may file complaints against officers who are alleged to have engaged in prosecutorial misconduct as well as language about the potential repercussions an officer may face for knowingly violating the code.

2. Improve Oversight of Prosecutorial Discretion

In addition to the potential oversight that emanates from a new professional code of conduct, DHS should enhance the internal oversight of prosecutorial discretion. For example, DHS's Officer of the Inspector General, Office of Policy, or Ombudsman could issue an annual report on the number of cases that were considered for prosecutorial discretion. In addition, the Government Accountability Office, Vera Institute for Justice, or American Bar Association could compile similar data.²⁹⁰ Data compiled by DHS or a third party should be reported to Congress and made available to the public.

D. Legislative Reforms Beyond Prosecutorial Discretion

Prosecutorial discretion is a powerful tool that should be driven by sound principles and be consistent with broader immigration reforms. Prosecutorial discretion itself is a limited function that by its nature is

²⁸⁹ DAVIS, *ARBITRARY JUSTICE*, *supra* note 127, at 183.

²⁹⁰ Over the last decade, the oversight of former INS and DHS's exercise of prosecutorial discretion has been limited. In response to a request by Congresswoman Zoe Lofgren, the Government Accountability Office issued a report in October 2007 titled "Immigration Enforcement: ICE Could Improve Controls to Help Guide Alien Removal Decision Making." U.S. GOV'T ACCOUNTABILITY OFFICE, *supra* note 5. Three questions: 1. When and how do ICE officers and attorneys exercise discretion during the alien apprehension and removal process? 2. What internal controls has ICE designed to guide officer decision making to enhance its assurance that the exercise of discretion supports operational objectives? 3. What internal controls has ICE designed to oversee and monitor officer decision making during the alien apprehension and removal process to enhance ICE's assurance that the exercise of discretion supports its operational objectives?

aimed at decision-making on a case-by-case basis, in light of broader policy decisions about where to focus resources. By contrast, there are nearly 12 million individuals residing in the United States in violation of the immigration laws.²⁹¹ This estimate captures noncitizens who entered without inspection, and those who entered the United States on a valid visa but did not continue to meet the terms of their visa or allowed their visa to expire.²⁹² Notably, this estimate does not necessarily cover certain permanent residents (green card holders) vulnerable to removal for reasons largely related to legal indiscretions. Given the sheer size of the unauthorized immigrant population, prosecutorial discretion is not the most effective tool for recognizing their presence in the United States in the long run. To the extent that broad exercises of prosecutorial discretion have historically enabled large numbers of the unauthorized population to reside in “limbo” inside the United States, the affected individuals remain vulnerable to removal in the future and without permission to travel and in many cases work inside the United States. Moreover, when DHS’s exercise of prosecutorial discretion results in the non-enforcement of the immigration laws against millions of unauthorized immigrants, public criticism is sharpened. As expressed by Cox and Rodriguez, “It is hard for the public to grasp what the executive is doing when it appears to be tolerating unauthorized immigration and engaging in seemingly haphazard enforcement of the immigration laws.”²⁹³

Legalizing the undocumented noncitizens working and residing in the United States by creating legal avenues is more effectively reached through legislative reforms and is a subject of much debate by members of Congress, the Administration, the mainstream and ethnic media, labor unions, civil rights groups, economists, and faith-based groups, among others.²⁹⁴ While the topic of legalization is beyond the scope of this article, the fine line between DHS’s broad exercise of prosecutorial discretion and Congress’s enactment of a workable legalization program is striking.

²⁹¹“According to Pew Hispanic Center estimates, there were 11.9 million unauthorized immigrants living in the United States in March 2008. . . . Unauthorized immigrants make up 30 percent of the nation’s foreign-born population. . . . Approximately 44 percent of the nation’s unauthorized immigrants have arrived since 2000.” See AARON TERRAZAS & JEANNE BATALOVA, MIGRATION POLICY INSTITUTE, THE MOST UP-TO-DATE AND FREQUENTLY REQUESTED STATISTICS ON IMMIGRANTS IN THE UNITED STATES *12, (2008), available at <http://www.migrationinformation.org/USFocus/display.cfm?ID=714#8>.

²⁹² JEFFREY S. PASSEL & D’VERA COHN, PEW HISPANIC CENTER, TRENDS IN UNAUTHORIZED IMMIGRATION: UNDOCUMENTED INFLOW NOW TRAILS LEGAL INFLOW, at iv (2008), available at <http://pewhispanic.org/files/reports/94.pdf>.

²⁹³ Cox & Rodriguez, *supra* note 68, at 66.

²⁹⁴ For related articles and analyses on this topic, see Shoba Sivaprasad Wadhia, *Immigration: Mind Over Matter*, 5 U. MD. L.J. RACE, RELIGION, GENDER & CLASS 201 (2005); NATIONAL IMMIGRATION FORUM, COMPREHENSIVE REFORM OF OUR IMMIGRATION LAWS, BACKGROUNDER (2008), available at <http://www.immigrationforum.org/images/uploads/CIRBackgrounder.pdf>.

Congress must also reform the restrictions placed on noncitizens and immigration adjudicators as a consequence of the 1996 immigration laws. Indeed, the officers who crafted the agency's guidance on prosecutorial discretion have conceded that prosecutorial discretion is insufficient to redress congressional restrictions emanating from the 1996 immigration laws. Congress should strongly consider the following reforms, by no means a comprehensive list, for adoption: 1) restore the "212(c)" discretionary waiver for certain lawful permanent residents; 2) modify the existing statutory waivers of relief from removal to an achievable standard; 3) repeal or modify sections of the Immigration and Nationality Act that define terminology and/or penalize particular conduct too harshly, among them "unlawful presence," "admission," and "aggravated felony;" 4) modify the statutory restrictions that categorically mandate detention without bond and effectively prevent immigration judges from adjudicating individual requests for release or release on bond; 5) replenish restrictions placed on federal court review, including the blanket restriction on acts of prosecutorial discretion.

Even with legislative reforms, prosecutorial discretion will remain an important tool for DHS personnel. Reforming prosecutorial discretion in a manner that resolves compelling situations in favor of noncitizens and their families is an important principle that is consistent with the Supreme Court's conclusion more than sixty years ago that deportation is a drastic measure and at times the equivalent of banishment of exile.²⁹⁵ Moreover, by enacting reforms that recognize deferred action as a binding rule, permitting unauthorized immigrants to participate in a legal system, and replenishing basic protections and fairness into the removal process, DHS will be better positioned to administer the immigration laws with fairness and efficiency.

²⁹⁵ *Fong Haw Tan v. Phelan*, 333 U.S. 6, 10 (1948).

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INS REVERSES POLICY THAT SPLIT ALIEN FAMILIES

Tim Schreiner, Chronicle Staff Writer

Tens of thousands of spouses and children of newly legalized U.S. residents will be allowed to stay in the country under a significant federal policy shift announced yesterday.

The decision by the new commissioner of the Immigration and Naturalization Service was immediately hailed as a positive step by immigrant rights advocates, who used unusually complimentary words to describe the heretofore much-despised immigration agency.

"People were filled with anxiety, just as any family would be when worried about being separated from their spouses and children," said Kip Steinberg, attorney with the National Immigration Project of the National Lawyers Guild. "This is a nice change in direction."

Arnoldo Torres, national political director of the League of United Latin American Citizens, who has been harshly critical of the agency, called the order "probably one of the most reasonable positions that INS has taken."

The new INS policy reverses an inconsistently applied, 3-year-old practice that permitted family members to stay only when "compelling humanitarian reasons" dictated it.

"To split families simply encourages further violation of the law as they (illegal aliens) attempt to reunite," INS Commissioner Gene McNary said. The old policy was not "evenly and uniformly enforced throughout the country," he said.

Under the new order, spouses and unmarried children under 18 who did not qualify for amnesty but who lived with a now-legalized family member "before, on and since Nov. 6, 1986," the day the amnesty law took effect, will be allowed to stay in this country.

100,000 PEOPLE MAY BE AFFECTED

The new policy is likely to benefit more than 100,000 people, INS officials and immigration lawyers said. More than 3 million illegal aliens have been granted amnesty under the 1986 law.

However, they disagreed over whether there now will be a rush of applicants under the "family fairness guideline" similar to the onslaught of applicants for amnesty under the original provisions of the 1986 Immigration Reform and Control Act.

"I would not expect a big flood of people," said Philip Waters, INS deputy district director in San Francisco. The office has granted only 150 families permission to stay under previous family guidelines in the two years that amnesty has been in effect.

The number will increase significantly under the new guideline, said Charles Wheeler of the National Center for Immigrants' Rights, because some districts, such as Los Angeles, usually granted such permission only if the illegal alien were in the midst of deportation proceedings.

TAKING THE FEAR OUT

"People could not come in and apply for it," Wheeler said. "Now they can. This will take the fear out of it."

Many family members did not apply "because once it was explained to them that they could be deported if they did not qualify, a lot of people were not willing to take the risk," Steinberg said.

The only exceptions are spouses and children who have committed crimes, become "public charges" on welfare or gotten married since Nov. 6, 1986.

STILL NOT LEGAL RESIDENTS

Although it gives more stable status to illegal spouses and children, the new rule does not make them legal residents of the United States. They must annually renew their "voluntary departure" status, which means they cannot be deported. However, if they leave the country, "they have no legal basis for coming back -- that's the problem with this," Waters said.

The spouses and children covered by the order typically followed their relatives to this country but did not arrive in time to qualify for amnesty. These people technically remain illegal aliens; however, they can apply for legal status under a lengthier traditional process that allows relatives to become residents.

Many immigrant-group representatives and attorneys noted the contrast between McNary's few months in office and the tenure of former commissioner Alan Nelson.

NEW APPROACH HAILED

"McNary's is a thoughtful and humane approach, as opposed to the stick-and-law-enforcement approach of Nelson, whose proposed solution was a ditch at the border," said Robert Rubin of the immigrant and refugee rights project of the Lawyers Committee for Urban Affairs.

Not everyone was happy with the new policy.

"It is over-broad, arbitrary, capricious and illegal," said Dan Stein, executive director of the Federation for American Immigration Reform.

"At issue here," Stein said, "is who defines the basic immigration law, Congress and the American people or the bureaucrats and pressure groups that surround them. It's an open invitation for future illegal immigration."

---- Index References ----

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Note: The survey results can be found [here](#). As of November 2, 2017, the survey results have been updated to include breakdowns of urban and rural DACA recipients. For more information on the survey, please contact [Tom K. Wong](#).

SEE THE 2018 VERSION OF THIS SURVEY

ARTICLE

Amid Legal and Political Uncertainty, DACA Remains More Important Than Ever

Aug 15, 2018

[Tom K. Wong](#), [Sanaa Abrar](#), [Tom Jawetz](#), + 4 More

Since it was first announced on June 15, 2012, the [Deferred Action for Childhood Arrivals](#) (DACA) policy has provided temporary relief from deportation as well as work authorization to approximately [800,000 undocumented young people](#) across the country. As [research has consistently shown](#), DACA has not only improved the lives of undocumented young people and their families but has also positively affected the [economy more generally](#), which benefits all Americans.

From August 1, 2017 to August 20, 2017, Tom K. Wong of the University of California, San Diego; United We Dream (UWD); the National Immigration Law Center (NILC); and the Center for American Progress fielded a national survey to further analyze the economic, employment, educational, and societal experiences of DACA recipients. This is the largest study to date of DACA recipients with a sample size of 3,063 respondents in 46 states as well as the District of Columbia.

The data illustrate that DACA recipients continue to make positive and significant contributions to the economy, including earning higher wages, which translates into [higher tax revenue](#) and economic growth that benefits all Americans. In addition, DACA recipients are buying cars, purchasing their first homes, and even creating new businesses. The survey's results also show that at least 72 percent of the top 25 Fortune 500 companies employ DACA recipients. Moreover, 97 percent of respondents are currently employed or enrolled in school.

DACA's impact on employment

Work authorization is critical in helping DACA recipients participate more fully in the labor force. The data show that 91 percent of respondents are currently employed. Among respondents age 25 and older, employment jumps to 93 percent.

After receiving DACA, 69 percent of respondents reported moving to a job with better pay; 54 percent moved to a job that "better fits my education and training"; 54 percent moved to a job that "better fits my long-term career goals"; and 56 percent moved to a job with better working conditions.

We also see that 5 percent of respondents started their own business after receiving DACA. Among respondents 25 years and older, this climbs to 8 percent. As the 2016 survey noted, among the [American public](#) as a whole, the rate of starting a business is 3.1 percent, meaning that DACA recipients are outpacing the general population in terms of business creation.



"DACA has been unreservedly good for the U.S. economy and for U.S. society."

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As one respondent stated, “I started a bookkeeping business which gives me the opportunity to help our Hispanic community be in compliance with tax law [...] If DACA ended, I will not be able to keep my small business and help my community.”

Another respondent stated, “Because of DACA, I opened a restaurant. We are contributing to the economic growth of our local community. We pay our fair share of taxes and hire employees [...] It will be hard to maintain my business if DACA ended. I depend on my [social security number] for a lot of my business, such as when getting licenses, permits, leases, and credit.”

DACA's impact on earnings

The data make clear that DACA is having a positive and significant effect on wages. The average hourly wage of respondents increased by 69 percent since receiving DACA, rising from \$10.29 per hour to \$17.46 per hour. Among respondents 25 years and older, the average hourly wage increased by 84 percent since receiving DACA.

The data also show that respondents' average annual earnings come out to \$36,232, and their median annual earnings total \$32,000. Among respondents 25 years and older, the figures are \$41,621 and \$37,595, respectively. These higher wages are not just important for recipients and their families but also for tax revenues and economic growth at the local, state, and federal levels.

Last year, we noted that further research is needed to parse out the short- and long-run wage effects of DACA as well as whether short-run gains represent a plateau in earnings or if more robust long-run wage effects may exist. This remains true. However, as DACA recipients are now further along in their careers, and as we continue to see growth in their earnings, it is likely there is even more room for recipients' wages to grow.

The immediate impact of wage increases is evident in 69 percent of survey respondents reporting that their increased earnings have “helped me become financially independent” and 71 percent reporting that their increased earnings have “helped my family financially.” Among respondents 25 years and older, these percentages rise to 73 percent and 74 percent, respectively.

DACA's impact on the economy

The purchasing power of DACA recipients continues to increase. In the 2017 study, nearly two-thirds of respondents, or 65 percent, reported purchasing their first car. The average cost paid was \$16,469. As we have noted previously, these large purchases matter in terms of state revenue, as most states collect a percentage of the purchase price in sales tax, along with additional registration and title fees. The added revenue for states comes in addition to the safety benefits of having more licensed and insured drivers on the roads.

The data also show that 16 percent of respondents purchased their first home after receiving DACA. Among respondents 25 years and older, this percentage rises to 24 percent. The broader positive economic effects of home purchases include the creation of jobs and the infusion of new spending in local economies.

Additionally—and importantly—the data show that at least 72 percent of the top 25 Fortune 500 companies—including Walmart, Apple, General Motors, Amazon, JPMorgan Chase, Home Depot, and Wells Fargo, among others—employ DACA recipients. All told, these companies account for \$2.8 trillion in annual revenue.

DACA's impact on education

Overall, 45 percent of respondents are currently in school. Among those currently in school, 72 percent are pursuing a bachelor's degree or higher. The majors and specializations that respondents report include accounting, biochemistry, business administration, chemical engineering, civil engineering, computer science, early childhood education, economics, environmental science, history, law, mathematics, mechanical engineering, neuroscience, physics, psychology, and social work, to name a few.

When it comes to educational attainment, 36 percent of respondents 25 years and older have a bachelor's degree or higher. Importantly, among those who are currently in school, a robust 94 percent said that, because of DACA, "I pursued educational opportunities that I previously could not."

Conclusion

Our findings could not paint a clearer picture: DACA has been unreservedly good for the U.S. economy and for U.S. society more generally. Previous research has shown that DACA beneficiaries will contribute \$460.3 billion to the U.S. gross domestic product over the next decade—economic growth that would be lost were DACA to be eliminated.

As our results show, the inclusion of these young people has contributed to more prosperous local, state and national economies; to safer and stronger communities through increased access to cars and home ownership; and to a more prepared and educated workforce for the future. Ending DACA now would be counterproductive at best and, at worst, cruel. At present, 800,000 lives—as well as the lives of their families and friends—hang in the balance. At a time when the continuing existence of DACA is facing its most serious threat ever, understanding the benefits of the program for recipients; their families and communities; and to the nation as a whole is all the more important.

Tom K. Wong is associate professor of political science at the University of California, San Diego. Greisa Martinez Rosas is advocacy and policy director, Adam Luna is senior advisor for communications, Henry Manning is research fellow, and Adrian Reyna is director of membership and technology strategies at United We Dream. Patrick O'Shea is Mellon/ACLS public fellow at the National Immigration Law Center. Tom Jawetz is vice president for Immigration Policy and Philip E. Wolgin is managing director for Immigration Policy at the Center for American Progress.

The authors thank all those who took the survey for their time and effort in helping to bring these stories to light.

Methodology

The questionnaire was administered to an online panel of DACA recipients recruited by the partner organizations. Several steps were taken to account for the known sources of bias that result from such online panels. To prevent ballot stuffing—one person submitting multiple responses—the authors did not offer an incentive to respondents for taking the questionnaire and used a state-of-the-art online survey platform that does not allow one IP address to submit multiple responses. To prevent spoiled ballots—meaning, people responding who are not undocumented—the authors used a unique validation test for undocumented status. Multiple questions were asked about each respondent's migratory history. These questions were asked at different parts of the questionnaire. When repeated, the questions were posed using different wording. If there was agreement in the answers such that there was consistency regarding the respondent's migratory history, the respondent was kept in the resulting pool of respondents. If not, the respondent was excluded. In order to recruit respondents

outside of the networks of the partner organizations, Facebook ads were also used. Because there is no phone book of undocumented immigrants, and given the nature of online opt-in surveys, it is not possible to construct a valid margin of error.

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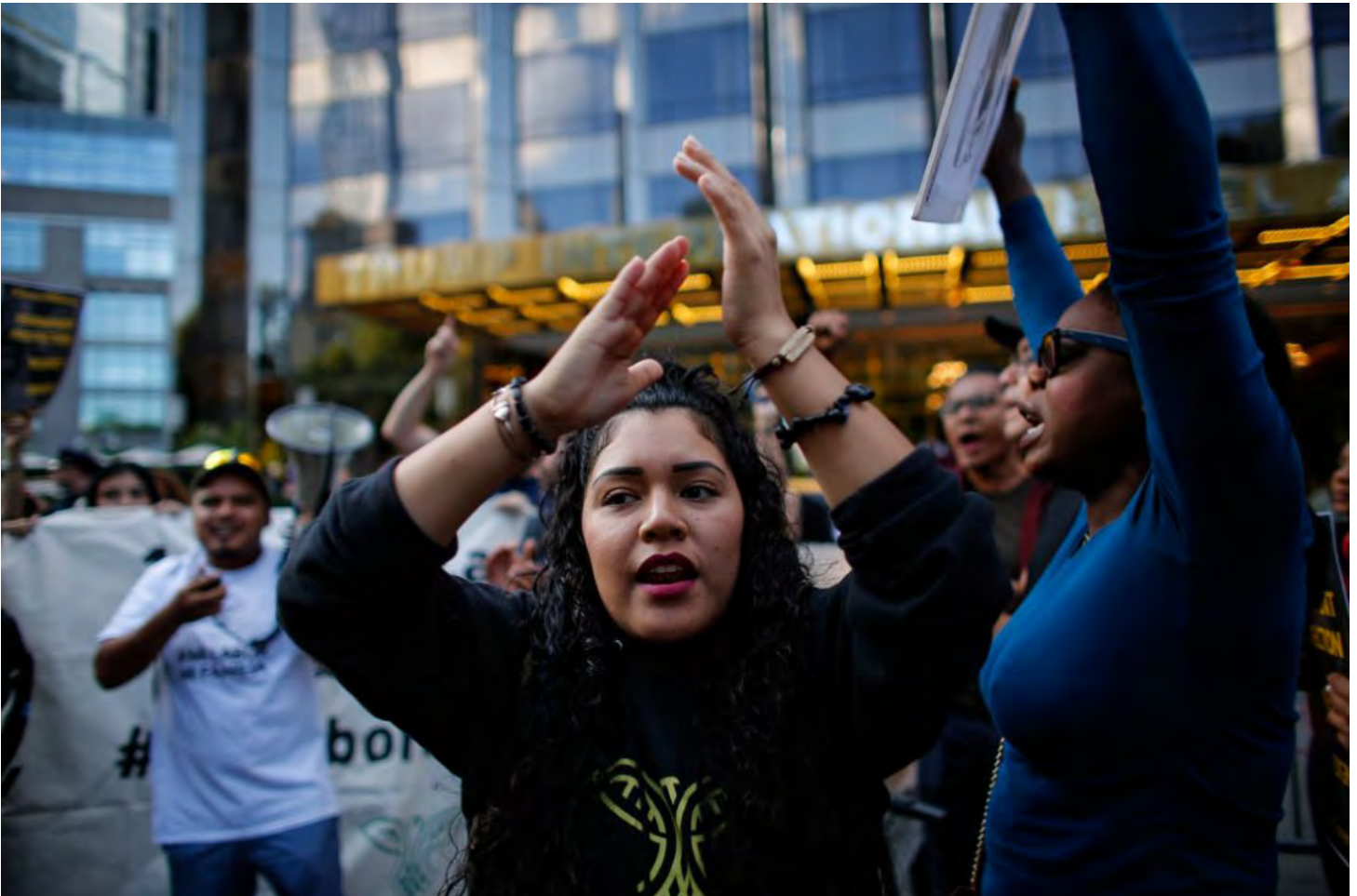


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IMMIGRATION

DACA Recipients' Livelihoods, Families, and Sense of Security Are at Stake This November

By [Tom K. Wong](#), Sanaa Abrar, [Claudia Flores](#), Tom Jawetz, Ignacia Rodriguez Kmec, Greisa Martinez Rosas, Holly Straut-Eppsteiner, and [Philip E. Wolgin](#) | September 19, 2019, 5:00 am



Getty/Corbis News/VIEWpress/Kena Betancur

A woman takes part in a New York City march against President Trump's decision to end DACA, September 2017.

AR2022_502611

Note: The survey results can be found [here](#). For more information on the survey, please contact [Tom K. Wong](#).

Since it was first announced on June 15, 2012, the [Deferred Action for Childhood Arrivals](#) (DACA) policy has provided temporary relief from deportation as well as work authorization to approximately [825,000 undocumented young people](#) across the country.

From August 14 to September 6, 2019, Tom K. Wong of the U.S. Immigration Policy Center at the University of California, San Diego; United We Dream; the National Immigration Law Center; and the Center for American Progress fielded a national survey to further analyze the experiences of DACA recipients. This study includes 1,105 DACA recipients in 40 states as well as the District of Columbia.

2019 marks the fifth consecutive year that the authors have surveyed DACA recipients. This research, [as with previous surveys](#), continues to show that DACA recipients are making significant contributions to the economy. In all, 96 percent of respondents are currently employed or enrolled in school.

Moreover, for the first time, the survey provides data about the widespread harms that DACA recipients could endure if they lost their status and faced potential deportation. A full 93 percent of respondents reported concerns about either their or their family's physical safety; ability to access health care or education; food security; or risk of homelessness if they were deported to their respective countries of birth. With the Supreme Court [set to hear](#) oral arguments on the legality of DACA's termination on November 12, these data make clear that the stakes could not be higher.

DACA's impact on employment

Work authorization has been critical in helping DACA recipients participate more fully in the labor force. The data show that 89 percent of respondents are currently employed. Among respondents ages 25 and older, the employment rate jumps to 91 percent.

After receiving DACA:

- 58 percent of respondents moved to a job with better pay.
- 48 percent of respondents moved to a job with better working conditions.
- 53 percent of respondents moved to a job that "better fits [their] education and training."

- 52 percent of respondents moved to a job that “better fits [their] long-term career goals.”
- 53 percent of respondents moved to a job with health insurance or other benefits.

The data also show that 6 percent of respondents started their own businesses after receiving DACA. Among respondents 25 years and older, this figure increases to 9 percent. As the authors have noted in previous surveys, DACA recipients are outpacing the general population in terms of [business creation](#). DACA business owners with full-time employees (48 percent of all DACA business owners), on average, employ 4 1/2 workers other than themselves.

Moreover, 17 percent have obtained professional licenses after receiving DACA. Among respondents 25 years and older, this figure increases to 20 percent.

DACA's impact on earnings

Several years of data, including this 2019 survey, make clear that DACA is having a positive and significant effect on wages. Respondents' average hourly wage increased by 86 percent since they received DACA, rising from \$10.46 per hour to \$19.45 per hour. And among respondents 25 years and older, the average hourly wage increased by 128 percent since receiving DACA. These higher wages are not just important for recipients and their families but also for [tax revenues](#) and economic growth at the local, state, and federal levels.

The data also show that respondents' average annual earnings come out to approximately \$42,000, and their median annual earnings total \$38,000. Among respondents 25 years and older, these figures are \$49,790 and \$44,583, respectively.

In addition, DACA has led to greater financial independence and security for recipients and their families.

- 79 percent of respondents reported that their increased earnings have “helped [them] become financially independent.”
- 79 percent reported that their increased earnings have “helped [their] family financially.”
- 25 percent reported that their increased earnings have “helped [them] take care of an elderly parent or relative.”

Specifically, among respondents currently in school, 80 percent reported that their increased earnings helped pay for tuition, and among respondents with children, 47 percent reported that

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their increased earnings have helped to pay for child care expenses. Meanwhile, 47 percent of respondents reported that their increased earnings have helped pay for medical expenses, and 46 percent reported being able to move into better or improved housing.

DACA's impact on the economy

DACA recipients' purchasing power continues to increase. For example, 60 percent of respondents reported buying their first car after receiving DACA. These large purchases contribute to state revenue, as most states collect a percentage of the purchase price in sales tax, along with additional [registration and title fees](#). The added revenue for states comes in addition to the [safety benefits](#) of having more licensed and insured drivers on the roads.

The data also show that 14 percent of respondents purchased their first home after receiving DACA. Among respondents 25 years and older, this figure increases to 19 percent. The broader positive economic effects of home purchases include increased [job creation](#) and the infusion of [new spending](#) in local economies.

These effects come on top of the combined [\\$8.8 billion](#) in federal, state, and local taxes paid annually by households with DACA recipients.

DACA's impact on education

Overall, 40 percent of respondents are currently in school, a large majority—83 percent—of whom are pursuing a bachelor's degree or higher. When it comes to educational attainment, 46 percent of respondents reported already having a bachelor's degree or higher. Importantly, among those who are currently in school, a robust 93 percent said that because of DACA, "[They] pursued educational opportunities that [they] previously could not."

Potential risks of deporting DACA recipients

As stated earlier, for the first time, the survey reveals DACA recipients' deep fears of return and the potential harms that they could face if they lost their protection and were deported. The results are stark:

- 80 percent reported, "In my country of birth, I would be concerned about the physical safety of myself and my family."
- 75 percent reported, "In my country of birth, I would be concerned about the quality of healthcare for myself and my family."

- 77 percent reported, “In my country of birth, I would be concerned about the quality of education for myself and my family.”
- 58 percent reported, “In my country of birth, I would be concerned about food insecurity for myself and my family.”
- 41 percent reported, “In my country of birth, I would be concerned about homelessness for myself and my family.”

Altogether, 93 percent of respondents reported concerns about either their or their family’s physical safety, health care, education, food security, or risk of homelessness in their respective countries of birth.

Strikingly, the average age of arrival to the United States among respondents is just 6.1 years old, and more than two-thirds—69 percent—reported not having any immediate family members who still live in their respective countries of birth. These findings make clear that deporting DACA recipients would not only mean sending them to countries they barely know, but it would also put their physical safety, well-being, and livelihood at serious risk.

Civic engagement of DACA recipients

Despite DACA’s uncertainty, the data continue to show tremendous resolve among DACA recipients and suggest that the program is associated with a greater sense of belonging. Fifty-seven percent of respondents reported that they have become more involved in their communities after receiving DACA. After their DACA application was approved, 67 percent reported, “I am no longer afraid of my immigration status,” and 67 percent reported, “I feel more like I belong in the U.S.” Nearly half of respondents reported that they have become more politically active since receiving DACA.

The uncertainty of life with DACA

The legal and political uncertainty surrounding DACA continues to weigh heavily on the minds of DACA recipients. For example, 56 percent of respondents reported that they think about either being detained in an immigration detention facility or deported from the United States at least once a day; and an even greater percentage, 69 percent, reported that they think about a family member being detained or deported at least once a day.

Fear of family separation is particularly strong among DACA recipients who are parents. Among those with children, 75 percent reported that they think about “being separated from [their] children

because of deportation” at least once a day, while 72 percent reported thinking about “not being able to see [their] children grow up because of deportation” at least once a day.

Conclusion

As the Supreme Court prepares to hear arguments on DACA’s termination on November 12, 2019, the implications for DACA recipients, their families, and the U.S. economy as a whole are clear. DACA has been a major success, evidenced by recipients’ gains in employment outcomes and educational attainment, increased sense of belonging and stability, and contributions to local communities and economies. But now, these gains are on the line. And as the data show, stripping recipients of protections would have potentially disastrous impacts on them and their families, including the [nearly 256,000 U.S. citizen children](#) who have a parent with DACA.

Tom K. Wong is associate professor of political science and founding director of the U.S. Immigration Policy Center at the University of California, San Diego, as well as a senior fellow at the Center for American Progress. Sanaa Abrar is advocacy director at United We Dream. Claudia Flores is the immigration campaign manager at the Center for American Progress. Tom Jawetz is vice president for Immigration Policy at the Center for American Progress. Ignacia Rodriguez Kmec is immigration policy advocate at the National Immigration Law Center. Greisa Martinez Rosas is deputy executive director at United We Dream. Holly Straut-Eppsteiner is research program manager at the National Immigration Law Center. Philip E. Wolgin is managing director for Immigration Policy at the Center for American Progress.

The authors would like to thank all those who took and shared the survey for their time and effort in helping to bring these stories to light.

Methodology

The questionnaire was administered to an online panel of DACA recipients recruited by the partner organizations. Several steps were taken to account for the known sources of bias that result from such online panels. To prevent ballot stuffing—one person submitting multiple responses—the authors did not offer an incentive to respondents for taking the questionnaire and used a state-of-the-art online survey platform that does not allow one IP address to submit multiple responses. To prevent spoiled ballots—people responding who are not undocumented—the authors used two validation tests for undocumented status. Multiple questions were asked about each respondent’s migratory history and DACA application history. These questions were asked at different parts of the questionnaire. When repeated, the questions were posed using different wording. If there was agreement in the answers such that there was consistency regarding the respondent’s migratory

history and DACA application history, the respondent was kept in the resulting pool of respondents. If not, the respondent was excluded.

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ARTICLE OCT 5, 2020

New DHS Policy Threatens To Undo Gains Made by DACA Recipients

DACA continues to be a major success, but the Trump administration's newest attempt to restrict the initiative threatens this progress.

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Restoring Social Trust in Democracy, DACA, Deferred Action for Childhood Arrivals, Immigration, Trump Administration



Student immigration activists participate in a rally defending Deferred Action for Childhood Arrivals (DACA) in front of the U.S. Supreme Court after they walked out from area high schools and universities, November 8, 2019, in Washington, D.C. (Getty/Alex Wong)

AR2022_502618

To view the full survey results, [visit this link](#).

The Deferred Action for Childhood Arrivals (DACA) initiative has provided temporary relief from deportation as well as work authorization to approximately 826,000 undocumented young people across the United States since first being enacted in 2012. But despite the Supreme Court's June ruling rejecting the Trump administration's termination of DACA—and a federal judge's order mandating that Trump administration restore DACA fully and begin accepting new, first-time applicants—the Department of Homeland Security (DHS) partially rescinded DACA again in a July 28, 2020, memo. In the memo, DHS announced that it would reject new applications and only grant one-year renewals.



“DACA has improved the well-being of recipients and their families and has been important for the U.S. economy.”

From August 18 to September 10, 2020, Tom K. Wong of the U.S. Immigration Policy Center at the University of California, San Diego; United We Dream; the National Immigration Law Center; and the Center for American Progress fielded a national survey to analyze the experiences of DACA recipients since the start of the initiative. This study includes 1,157 DACA recipients in 44 states and Washington, D.C.

This research, as with the five previous annual surveys, continues to show that DACA recipients are contributing significantly to society and the economy, with 91.7 percent of respondents indicating that they are currently employed or in school. This year, the survey provides new insights into how DHS' recent policy changes could potentially undo the gains that DACA recipients have made.

DACA's impact on employment

Work authorization has been instrumental in ensuring that DACA recipients can participate more fully in the U.S. labor force. Among survey respondents, 88.5 percent are currently employed. The employment rate increases slightly to 89.1 percent among respondents who are ages 25 and older.

After receiving DACA:

- 63.2 percent of respondents reported moving to a job with better pay.
- 52.8 percent reported moving to a job with better working conditions.
- 52.6 percent reported moving to a job that “better fits my education and training.”
- 54.5 percent reported moving to a job that “better fits my long-term career goals.”
- 59 percent reported moving to a job with health insurance or other benefits.

DACA recipients continue to outpace the general population in terms of business creation rates. The 2020 survey shows that 6.1 percent of respondents started their own businesses after receiving DACA. Among respondents 25 years old and older, this increases to 7 percent. Moreover, 16.7 percent reported obtaining professional licenses after receiving DACA. This increases to 18.3 percent among respondents ages 25 and older.

DACA's impact on earnings

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The several years of DACA surveys, including this 2020 survey, illustrate that DACA has a positive, significant effect on wages. The average hourly wage of respondents increased by 110.9 percent after receiving DACA, from \$11.80 per hour to \$24.88 per hour. These higher wages have persisted even during the COVID-19 pandemic. This is explained, in part, by a large percentage of DACA recipients who have continued to work during the pandemic as essential workers, as is shown in the second part of the survey results. These higher wages are not just important for recipients and their families but also for tax revenues and economic growth at the local, state, and federal levels.

DACA has given recipients and their families greater financial independence and security:

- A full 83.7 percent of respondents reported that increased earnings have “helped me become financially independent.”
- 83.5 percent reported that increased earnings have “helped my family financially.”
- 29.6 percent reported that increased earnings have “helped me take care of an elderly parent or relative.”
- Among respondents currently in school, 86.4 percent reported that their increased earnings helped pay for tuition.
- 53.9 percent reported that their increased earnings have helped pay for medical expenses.

The data also show that DACA recipients have been on the front lines during the COVID-19 pandemic. More than half of survey respondents who are currently employed, 57.7 percent, reported, “I have continued to work during the COVID-19 pandemic due to being an essential worker.” However, among these respondents, 14 percent also reported that their employer has not given them personal protective equipment (PPE).

DACA’s impact on the economy

The purchasing power of DACA recipients continues to increase year over year. For example, 65.1 percent of respondents reported purchasing their first car after receiving DACA. These large purchases matter in terms of state revenue, bringing in sales tax, registration fees, and title fees. This is not to mention the safety benefits of more drivers licensed and insured.

In addition, 20.4 percent of respondents reported purchasing their first home after receiving DACA. Among respondents 25 years old and older, this rises to 25.2 percent. Home purchases have a number of positive effects, including the creation of jobs and the infusion of new spending in local economies. The data also show that 8 in 10 recipients who took out a home loan to buy their house have more than 20 years left on their mortgage. This speaks to the long-term reliance interests—how recipients have come to rely on the continuing existing of DACA in their everyday lives and the commitments they have already made—that they have in being able to continue supporting their families and communities.

DACA’s impact on education

Overall, 30.4 percent of respondents are currently attending school, a full 76.4 of whom are pursuing a bachelor’s degree or higher. Among respondents who stated that they are currently in school, a robust 91.8 percent said that DACA allowed them to pursue

“educational opportunities that [they] previously could not.” Meanwhile, 42.8 percent of respondents reported already having a bachelor’s degree or higher.

New DHS memo may undo DACA recipients’ economic and educational gains

Despite a Supreme Court ruling that blocked the administration’s 2017 efforts to end DACA, the Trump administration has continued its attacks on the initiative. On July 28, 2020, DHS announced that it would reject all initial requests for DACA and related requests for employment authorization, grant requests for advance parole for international travel only in exceptional circumstances, and limit grants of deferred action and work authorization to one year rather than two years. The memo’s validity is the subject of ongoing litigation.

The survey data show that limiting grants of deferred action and work authorization to one year has the potential to undo the gains that DACA recipients have made. More than half of respondents who are currently employed, 57.5 percent, said that having only one year of DACA instead of two “makes it more difficult for me to keep my job.” Moreover, more than 40 percent of respondents who are currently attending college said that having one year of DACA “makes it more difficult for me to stay in college.”

Having a single year of deferred action requires DACA recipients to pay to renew their status every year. The cost to renew DACA remains \$495, but DHS’ recent change effectively doubles the cost and places the burden on DACA recipients to renew every year. A full 65.7 percent of respondents said, “The cost of applying to renew my DACA every year would be too much for me to afford.”

The ability to pay DACA-related fees has long been an obstacle for many DACA recipients, and at a time when many are facing unprecedented financial hardship due to the impact of the COVID-19 pandemic and economic crisis, this additional yearly fee could hinder eligible individuals from applying, putting at risk their employment authorization and protection from deportation.

Paying DACA renewal fees every year also compounds existing issues related to DACA renewal processing times. Renewing DACA has, in some cases, taken up to 11.5 months.* Per the July 28, DHS memorandum, U.S. Citizenship and Immigration Services (USCIS) states, “DACA recipients should file their renewal request between 150 and 120 days before their current grant of DACA expires,” with requests submitted earlier than 150 days generally rejected. Among the survey respondents, 8.5 percent reported that their last DACA renewal application took six months or longer to process. USCIS is struggling to meet its goal of processing DACA renewal requests within 120 days, and limiting DACA recipients’ ability to request renewal with more than 150 days left before expiration increases the risk that their deferred action and work authorization could lapse. If these trends persist, 54,700 recipients out of the nearly 650,000 people with DACA could see their DACA lapse despite seeking renewal during the advised 150 to 120 day window.

Conclusion

The findings discussed above continue to show that DACA has improved the well-being of recipients and their families and has been important for the U.S. economy, as well as for U.S. society more broadly. However, these findings also highlight how the Trump administration’s latest rollback of DACA protections—in particular, limiting recipients to only one year of deferred action and work authorization and protection from deportation—could undo the economic and educational gains that DACA recipients have made.

Tom K. Wong is associate professor of political science and founding director of the U.S. Immigration Policy Center at the University of California, San Diego, and a senior fellow at the Center for American Progress. Sanaa Abrar is advocacy director and Juliana Macedo do Nascimento is state and local policy manager at United We Dream. Ignacia Rodriguez Kmec is immigration policy advocate at the National Immigration Law Center. Tom Jawetz is vice president for Immigration Policy, Claudia Flores is the immigration campaign manager, and Philip E. Wolgin is managing director for Immigration Policy at the Center for American Progress.

The authors thank all those who took and shared the survey for their time and effort in helping bring these stories to light. Wong would also like to thank Maya Lu for her research assistance.

** Processing times are based on choosing Form I-821D: Consideration of Deferred Action for Childhood Arrivals and the Vermont Service Center on the following source: U.S. Citizenship and Immigration Services, “Check Case Processing Times,” available at <https://egov.uscis.gov/processing-times/> (last accessed September 2020).*

Methodology

The questionnaire was administered to an online panel of DACA recipients recruited by the partner organizations. Several steps were taken to account for the known sources of bias that result from such online panels. To prevent ballot stuffing—one person submitting multiple responses—the authors did not offer an incentive to respondents for taking the questionnaire and used a state-of-the-art online survey platform, Qualtrics, that does not allow one IP address to submit multiple responses. To prevent spoiled ballots—meaning, people responding who are not undocumented—the authors used two validation tests for undocumented status. Multiple questions were asked about each respondent’s migratory history and DACA application history. These questions were asked at different parts of the questionnaire. When repeated, the questions were posed using different wording. If there was agreement in the answers such that there was consistency regarding the respondent’s migratory history and DACA application history, the respondent was kept in the resulting pool of respondents. If not, the respondent was excluded.

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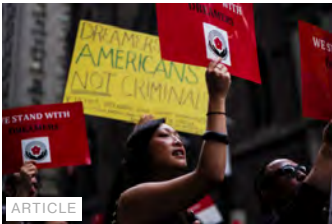
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Exhibit 22

Results from Tom K. Wong¹ et al., 2017 National DACA Study

Survey fielded 8/1/2017 to 8/20/2017

$n = 3,063$

Methodology	1
Economic Integration	2-5
Education	6-7
Inclusion and Belonging	8-10
DACA Post-November 2016	11-14
Applying/Renewing DACA	15-17

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How likely are you to leave the country if DACA ends?*(n* = 3,063)

Very likely	9.8%
Likely	12.5%
Neither likely nor unlikely	27.1%
Unlikely	18.2%
Very unlikely	31.5%
No response	0.8%
Likely/very likely	22.3%

Note: percentages may not sum to 100 due to rounding.

If DACA ends, would you be willing to participate in protest actions (e.g., rallies, marches, and demonstrations)?*(n* = 3,063)

Yes	84.9%
No	12.9%
No response	2.1%

Note: percentages may not sum to 100 due to rounding.

If DACA ends, would you be willing to engage in civil disobedience?*(n* = 3,063)

Yes	34.6%
No	60.7%
No response	4.7%

Note: percentages may not sum to 100 due to rounding.

Results from Tom K. Wong¹ et al., 2019 National DACA Study

Survey fielded 8/14/19 to 9/6/19
(*n* = 1,105)

Methodology	.....	1
Economic Integration	.....	2-4
Education	.....	5-6
Risks of Deporting DACA Recipients	.....	7
Inclusion and Belonging	.....	8-9
Concerns About Immigration Enforcement	.....	10-12

¹ Tom K. Wong is associate professor of political science and founding director of the U.S. Immigration Policy Center (USIPC) at UC San Diego.

Methodology

The questionnaire was administered to an online panel of DACA recipients recruited by the partner organizations. Several steps were taken to account for the known sources of bias that result from such online panels. To prevent ballot stuffing—one person submitting multiple responses—the authors did not offer an incentive to respondents for taking the questionnaire and used a state-of-the-art online survey platform that does not allow one IP address to submit multiple responses. To prevent spoiled ballots—meaning people responding who are not undocumented—the authors used a unique validation test for undocumented status. Multiple questions were asked about each respondent's migratory and DACA application history. These questions were asked at different parts of the questionnaire. When repeated, the questions were posed using different wording. If there was agreement in the answers such that there was consistency regarding the respondent's migratory history, the respondent was kept in the resulting pool of respondents. If not, the respondent was excluded. In order to recruit respondents outside of the networks of the partner organizations, Facebook ads were also used. Because there is no phone book of undocumented immigrants, and given the nature of online opt-in surveys, it is not possible to construct a valid margin of error.

Economic Integration

Check all that apply. After my DACA application was approved, I...

(*n* = 1,105)

		>= 25
Got my first job	58.5%	42.9%
Got a job with better pay	57.6%	69.4%
Got a job that better fits my education and training	53.0%	60.1%
Got a job that better fits my long-term career goals	51.8%	61.2%
Got a job with health insurance or other benefits	53.1%	64.9%
Got a job with improved work conditions	48.1%	57.5%
Started my own business	6.2%	8.6%
Obtained a professional license	16.5%	20.3%
I have been able to earn more money, which has helped me become financially independent	79.4%	84.5%
I have been able to earn more money, which has helped my family financially	78.5%	80.4%
I have been able to earn more money, which has helped me take care of an elderly parent or relative	25.2%	30.5%
I have been able to earn more money, which has helped me pay for childcare*	46.9%	47.9%
I have been able to earn more money, which has helped me pay for medical expenses	47.3%	53.4%
I have been able to earn more money, which has helped me pay for tuition**	80.1%	84.3%
I was able to move into better/improved housing	45.6%	56.7%
Got my first credit card	66.4%	67.1%
Opened a bank account	56.5%	42.5%
Opened a retirement account	33.8%	39.2%
Bought my first car	59.5%	65.4%
Bought my first home	13.6%	19.2%

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 699 for all respondents 25 years and older. * *n* = 211 for all respondents with children and *n* = 190 for all respondents 25 years and older with children. ** *n* = 443 for all respondents currently in school and *n* = 197 for all respondents 25 years and older and currently in school.

Are you currently employed?

(*n* = 1,105)

		>= 25
Yes	89.2%	90.7%
No	10.8%	9.3%
No response	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 699 for all respondents 25 years and older.

..... **Please indicate your average hourly wage OR annual salary.**
 (n = 986, which represents the 89.2% of all respondents who are currently employed)

			>= 25
Average hourly wage	.....	\$19.45	\$23.70
Median hourly wage	.....	\$17.00	\$20.00
Average annual earnings	.....	\$42,132	\$49,790
Median annual earnings	.....	\$38,000	\$44,583

Note: n = 634 for respondents 25 years and older and currently employed. Figures exclude the bottom 1st and top 99th percentiles.

..... **On average, how many hours do you work per week?**
 (n = 986, which represents the 89.2% of all respondents who are currently employed)

			>= 25
Average hours worked per week	.....	37.8	40.6
Median hours worked per week	.....	40.0	40.0

Note: n = 634 for respondents 25 years and older and currently employed. Figures exclude the bottom 1st and top 99th percentiles.

..... **Were you employed before DACA?**
 (n = 986, which represents the 89.2% of all respondents who are currently employed)

			>= 25
Yes	.....	42.3%	58.2%
No	.....	57.7%	41.8%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. n = 634 for respondents 25 years and older and currently employed.

..... **Please indicate your average hourly wage OR annual salary before DACA.**
 (n = 417, which represents the 42.3% of respondents who are currently employed and were also employed before DACA)

			>= 25
Average hourly wage	.....	\$10.46	\$10.64
Median hourly wage	.....	\$10.00	\$10.00
Average annual earnings	.....	\$21,012	\$21,860
Median annual earnings	.....	\$20,000	\$20,000

Note: n = 369 for respondents 25 years and older, currently employed, and were employed before DACA. Figures exclude the bottom 1st and top 99th percentiles.

..... **On average, how many hours did you work per week before DACA?**
 (n = 417, which represents the 42.3% of respondents who are currently employed and were also employed before DACA)

			>= 25
Average hours worked per week	.....	36.5	37.9
Median hours worked per week	.....	40.0	40.0

Note: n = 369 for respondents 25 years and older, currently employed, and were employed before DACA. Figures exclude the bottom 1st and top 99th percentiles.

..... **Does your employer know that you have DACA?**
 (n = 986, which represents the 89.2% of all respondents who are currently employed)

			>= 25
Yes	.....	78.3%	76.2%
No	.....	2.8%	3.0%
I'm unsure if my employer knows	.....	18.5%	20.4%
No response	.....	0.4%	0.5%

Note: percentages may not sum to 100 due to rounding. n = 634 for respondents 25 years and older and currently employed.

..... **Other than yourself, how many full-time employees do you employ?**
 (n = 68, which represents the 6.2% of all respondents who started businesses)

Average	.....	4.5
Median	.....	2

Note: Figures are for businesses that employ at least 1 full-time employee.

Education

Check all that apply. After my DACA application was approved, I...

(*n* = 1,105)

			>= 25
Pursued educational opportunities that I previously could not	.....	71.2%	61.4%
I haven't pursued more education yet, but I plan to	.....	24.4%	31.8%
I don't plan to pursue more education	.....	3.5%	5.4%

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 699 for all respondents 25 years and older.

Are you currently in school?

(*n* = 1,105)

			>= 25
Yes	.....	40.1%	28.2%
No	.....	59.9%	71.8%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 699 for all respondents 25 years and older.

..... What degree are you currently pursuing?

(*n* = 443, which represents the 40.1% of all respondents who are currently in school)

			>= 25
GED or equivalent	.....	0.5%	0.5%
High-school diploma	.....	0.2%	—
Trade/technical/vocational degree or certificate	.....	4.1%	6.6%
Associate's degree	.....	12.6%	11.2%
Bachelor's degree	.....	53.3%	32.5%
Master's degree	.....	18.5%	31.5%
Professional degree above a master's degree	.....	3.6%	4.6%
Doctorate degree	.....	7.2%	13.2%
No response	.....	—	—
Bachelor's degree or higher	.....	82.6%	81.7%

Note: percentages may not sum to 100 due to rounding. *n* = 197 for respondents 25 years and older and currently in school.

What is the highest degree or level of school you have completed? If you are currently enrolled in school, what is the highest degree you have received thus far?

(*n* = 1,105)

			>= 25
GED or equivalent	.....	1.9%	2.3%
High-school diploma	.....	16.5%	12.5%
Trade/technical/vocational degree or certificate	.....	5.8%	6.6%
Associate's degree	.....	14.6%	13.5%
Some college	.....	15.3%	11.7%
Bachelor's degree	.....	34.8%	36.6%
Master's degree	.....	9.8%	14.5%
Professional degree above a master's degree	.....	1.0%	1.6%
Doctorate degree	.....	0.5%	0.7%
No response	.....	—	—
Bachelor's degree or higher	.....	45.9%	53.4%

Note: percentages may not sum to 100 due to rounding. *n* = 699 for respondents 25 years and older.

Potential Risks of Deporting DACA Recipients

Check all that apply. In my country of birth...

(*n* = 1,105)

			>= 25
The quality of life I would be able to provide for myself and my family	.....	2.2%	2.4%
would be better than in the U.S.			
I would be concerned about the physical safety of myself and my family	.....	79.7%	78.8%
I would be concerned about homelessness for myself and my family	.....	41.3%	42.6%
I would be concerned about food insecurity for myself and my family	.....	58.0%	56.7%
I would be concerned about the quality of healthcare for myself and my	.....	75.3%	76.3%
family			
I would be concerned about the quality of education for myself and my	.....	76.7%	73.8%
family			
I would be able to get a job with better pay than in the U.S.	.....	2.8%	2.7%
I would be able to get a job that fits my education and training	.....	12.9%	13.3%
I would be able to get a job that fits my long-term career goals	.....	7.6%	7.4%

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 699 for all respondents 25 years and older.

Do you have an immediate family member, meaning a parent, sibling, spouse, or child, who still lives in your country of birth?

(*n* = 1,105)

			>= 25
Yes	.....	31.4%	30.8%
No	.....	68.6%	69.2%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 699 for all respondents 25 years and older.

Inclusion and Belonging

Check all that apply. After my DACA application was approved, I...

(*n* = 1,105)

			>= 25
Have become more politically active	.....	46.6%	44.3%
Have become more involved in my community	.....	56.8%	53.5%
Am no longer afraid because of my immigration status	.....	66.7%	66.5%
Feel more like I belong in the U.S.	.....	67.1%	68.5%

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 699 for all respondents 25 years and older.

Check all that apply. After my DACA application was approved, I...

(*n* = 1,105)

			>= 25
Got a driver's license for the first time	.....	80.2%	82.4%
Got a state identification card for the first time	.....	66.2%	63.8%

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 699 for all respondents 25 years and older.

Do you have an immediate family member, meaning a parent, sibling, spouse, or child who is a U.S. citizen?

(*n* = 1,105)

			>= 25
Yes	.....	69.9%	72.9%
No	.....	30.1%	27.0%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 699 for all respondents 25 years and older.

Do you have children?*(n* = 1,105)

			>= 25
Yes	.....	19.1%	27.2%
No	.....	80.9%	72.8%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 699 for all respondents 25 years and older.

..... **Do you have U.S. citizen children?***(n* = 211, which represents the 19.1% of all respondents who have children)

			>= 25
Yes	.....	98.6%	99.5%
No	.....	0.9%	0.5%
No response	.....	0.5%	—

Note: percentages may not sum to 100 due to rounding. *n* = 190 for all respondents 25 years and older with children.

Are you currently married?*(n* = 1,105)

			>= 25
Yes	.....	21.0%	28.5%
No	.....	79.0%	71.5%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 699 for all respondents 25 years and older.

..... **Is your spouse a U.S. citizen?***(n* = 232, which represents the 21.0% of all respondents who are currently married)

			>= 25
Yes	.....	60.3%	55.8%
No	.....	39.7%	44.2%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 199 for all respondents 25 years and currently married.

Concerns About Immigration Enforcement

How often do you think about the following?

(*n* = 1,105)

“Being detained in an immigration detention facility”

		>= 25	w/children
A few times an hour	2.1%	2.2%	1.4%
About once an hour	0.8%	1.1%	0.9%
A few times a day	17.0%	15.2%	17.5%
About once a day	24.9%	25.2%	23.7%
Less than once a day	40.8%	43.2%	45.0%
Never	13.8%	12.3%	9.9%
No response	0.6%	0.9%	1.4%
About once a day or more	44.8%	43.6%	43.6%

Note: percentages may not sum to 100 due to rounding. *n* = 699 for all respondents 25 years and older. *n* = 211 for all respondents with children.

“Being deported from the U.S.”

		>= 25	w/children
A few times an hour	3.0%	3.4%	2.4%
About once an hour	1.7%	1.6%	1.9%
A few times a day	18.5%	16.7%	16.1%
About once a day	27.3%	27.5%	30.8%
Less than once a day	38.2%	39.9%	36.9%
Never	10.7%	10.2%	11.4%
No response	0.6%	0.7%	0.5%
About once a day or more	50.5%	49.2%	51.2%

Note: percentages may not sum to 100 due to rounding. *n* = 699 for all respondents 25 years and older. *n* = 211 for all respondents with children.

“A family member being detained in an immigration detention facility”

		>= 25	w/children
A few times an hour	5.9%	5.6%	4.7%
About once an hour	4.3%	3.0%	3.8%
A few times a day	27.9%	23.6%	26.5%
About once a day	28.3%	28.9%	28.9%
Less than once a day	23.7%	26.9%	26.1%
Never	9.3%	11.4%	9.5%
No response	0.5%	0.6%	0.5%
About once a day or more	66.4%	61.1%	63.9%

Note: percentages may not sum to 100 due to rounding. *n* = 699 for all respondents 25 years and older. *n* = 211 for all respondents with children.

“A family member being deported from the U.S.”

		>= 25	w/children
A few times an hour	6.1%	5.9%	3.8%
About once an hour	3.9%	3.0%	3.3%
A few times a day	27.7%	22.5%	26.1%
About once a day	28.9%	30.2%	31.8%
Less than once a day	24.3%	27.3%	24.6%
Never	8.6%	10.9%	9.9%
No response	0.5%	0.6%	0.5%
About once a day or more	66.6%	61.6%	65.0%

Note: percentages may not sum to 100 due to rounding. $n = 699$ for all respondents 25 years and older. $n = 211$ for all respondents with children.

“Congress passing a new law that provides legal status for undocumented youth”

		>= 25	w/children
A few times an hour	8.6%	8.6%	8.1%
About once an hour	5.2%	3.9%	3.8%
A few times a day	28.8%	27.9%	31.3%
About once a day	29.1%	30.8%	36.0%
Less than once a day	21.8%	21.8%	15.2%
Never	6.2%	6.6%	5.2%
No response	0.5%	0.6%	0.5%
About once a day or more	71.7%	71.2%	79.2%

Note: percentages may not sum to 100 due to rounding. $n = 699$ for all respondents 25 years and older. $n = 211$ for all respondents with children.

..... How often do you think about the following?

($n = 211$, which represents the 19.1% of all respondents who have children)

“Being separated from my children because of deportation”

A few times an hour	13.3%
About once an hour	4.7%
A few times a day	27.5%
About once a day	29.4%
Less than once a day	19.9%
Never	4.7%
No response	0.5%
About once a day or more	74.9%

Note: percentages may not sum to 100 due to rounding.

“Not being able to see my children grow up because of deportation”

A few times an hour	14.2%
About once an hour	5.2%
A few times a day	28.4%
About once a day	23.7%
Less than once a day	19.9%
Never	8.5%
No response	—
About once a day or more	71.5%

Note: percentages may not sum to 100 due to rounding.

In what state do you live?*(n* = 1,105)

California - CA	.....	32.8%
Illinois - IL	.....	11.9%
Texas - TX	.....	9.2%
New York - NY	.....	5.1%
Florida - FL	.....	3.4%
Arizona - AZ	.....	2.7%
Washington - WA	.....	2.7%
Georgia - GA	.....	2.3%
Tennessee - TN	.....	2.0%
Maryland - MD	.....	1.8%
New Jersey - NJ	.....	1.8%
Virginia - VA	.....	1.7%
Colorado - CO	.....	1.6%
Nevada - NV	.....	1.6%
South Carolina - SC	.....	1.6%
Nebraska - NE	.....	1.4%
North Carolina - NC	.....	1.4%
District of Columbia - DC	.....	1.4%
Ohio - OH	.....	1.4%
Other	.....	12.1%

Note: percentages may not sum to 100 due to rounding.

What is your age?
(*n* = 1,105)

Average	.....	26.5
Median	.....	26
18	.....	1.6%
19	.....	3.9%
20	.....	4.6%
21	.....	5.3%
22	.....	7.6%
23	.....	6.4%
24	.....	7.2%
25	.....	8.4%
26	.....	6.9%
27	.....	7.1%
28	.....	6.7%
29	.....	5.9%
30	.....	6.2%
31	.....	5.2%
32	.....	5.1%
33	.....	3.2%
34	.....	2.8%
35	.....	2.1%
36	.....	1.9%
37	.....	1.7%

Note: percentages may not sum to 100 due to rounding.

How old were you when you first came to the U.S.?

(*n* = 1,105)

Average	.....	6.1
Median	.....	6
0	.....	4.6%
1	.....	9.6%
2	.....	8.6%
3	.....	9.4%
4	.....	9.4%
5	.....	7.9%
6	.....	7.8%
7	.....	6.7%
8	.....	6.9%
9	.....	6.6%
10	.....	5.4%
11	.....	3.9%
12	.....	4.3%
13	.....	3.0%
14	.....	2.9%
15	.....	2.9%

Note: percentages may not sum to 100 due to rounding.

What is your race/ethnicity?*(n* = 1,105)

Hispanic/Latino	91.0%
White	1.2%
Black/African-American	1.4%
Asian/Pacific Islander	5.7%
Other	3.1%
No response	—

Note: percentages may not sum to 100 due to rounding.

Do you think of yourself as...*(n* = 1,105)

Straight	82.7%
Gay or lesbian	6.3%
Bisexual	7.6%
Transgender or gender non-conforming	0.3%
Prefer not to say	3.1%
No response	—

Note: percentages may not sum to 100 due to rounding.

Results from Tom K. Wong¹ et al., 2020 National DACA Study

Survey fielded 8/18/20 to 9/10/20
(*n* = 1,157)

Methodology	1
Economic Integration	2-4
Education	5-6
Risks of Deporting DACA Recipients	7
Inclusion and Belonging	8-9
Survey Experiment	10
Concerns About Immigration Enforcement	11-13
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Methodology

The questionnaire was administered to an online panel of DACA recipients recruited by the partner organizations. Several steps were taken to account for the known sources of bias that result from such online panels. To prevent ballot stuffing—one person submitting multiple responses—the authors did not offer an incentive to respondents for taking the questionnaire and used a state-of-the-art online survey platform that does not allow one IP address to submit multiple responses. To prevent spoiled ballots—meaning people responding who are not undocumented—the authors used a unique validation test for undocumented status. Multiple questions were asked about each respondent's migratory and DACA application history. These questions were asked at different parts of the questionnaire. When repeated, the questions were posed using different wording. If there was agreement in the answers such that there was consistency regarding the respondent's migratory history, the respondent was kept in the resulting pool of respondents. If not, the respondent was excluded. In order to recruit respondents outside of the networks of the partner organizations, Facebook ads were also used. Because there is no phone book of undocumented immigrants, and given the nature of online opt-in surveys, it is not possible to construct a valid margin of error.

Economic Integration

Check all that apply. After my DACA application was approved, I...

(*n* = 1,157)

			>= 25
Got my first job	.....	55.2%	45.8%
Got a job with better pay	.....	63.2%	69.8%
Got a job that better fits my education and training	.....	52.6%	55.9%
Got a job that better fits my long-term career goals	.....	54.5%	59.4%
Got a job with health insurance or other benefits	.....	59.0%	65.5%
Got a job with improved work conditions	.....	52.8%	58.2%
Started my own business	.....	6.1%	7.0%
Obtained a professional license	.....	16.7%	18.3%
I have been able to earn more money, which has helped me become financially independent	.....	83.7%	86.9%
I have been able to earn more money, which has helped my family financially	.....	83.5%	84.4%
I have been able to earn more money, which has helped me take care of an elderly parent or relative	.....	29.6%	33.2%
I have been able to earn more money, which has helped me pay for childcare*	.....	50.3%	50.0%
I have been able to earn more money, which has helped me pay for medical expenses	.....	53.9%	56.7%
I have been able to earn more money, which has helped me pay for tuition**	.....	86.4%	86.5%
I was able to move into better/improved housing	.....	53.2%	60.4%
Got my first credit card	.....	70.1%	69.6%
Opened a bank account	.....	54.3%	45.4%
Opened a retirement account	.....	37.0%	42.1%
Bought my first car	.....	65.1%	68.0%
Bought my first home	.....	20.4%	25.2%

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 882 for all respondents 25 years and older. * *n* = 320 for all respondents with children and *n* = 308 for all respondents 25 years and older with children. ** *n* = 352 for all respondents currently in school and *n* = 193 for all respondents 25 years and older and currently in school.

Are you currently employed?

(*n* = 1,157)

			>= 25
Yes	.....	88.5%	89.1%
No	.....	11.5%	10.9%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years and older.

..... **Please indicate your average hourly wage OR annual salary.**

(n = 1,024, which represents the 88.5% of all respondents who are currently employed)

			>= 25
Average hourly wage	.....	\$24.88	\$27.17
Median hourly wage	.....	\$21.88	\$24.00
Average annual earnings	.....	\$47,979	\$52,164
Median annual earnings	.....	\$42,000	\$46,080

Note: n = 786 for respondents 25 years and older and currently employed. Figures exclude the bottom 1st and top 99th percentiles.

..... **On average, how many hours do you work per week?**

(n = 1,024, which represents the 88.5% of all respondents who are currently employed)

			>= 25
Average hours worked per week	.....	38.8	40.6
Median hours worked per week	.....	40.3	40.0

Note: n = 786 for respondents 25 years and older and currently employed. Figures exclude the bottom 1st and top 99th percentiles.

..... **Were you employed before DACA?**

(n = 1,024, which represents the 88.5% of all respondents who are currently employed)

			>= 25
Yes	.....	45.3%	56.1%
No	.....	54.7%	43.9%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. n = 786 for respondents 25 years and older and currently employed.

..... **Please indicate your average hourly wage OR annual salary before DACA.**
 ($n = 417$, which represents the 42.3% of respondents who are currently employed and were also employed before DACA)

			>= 25
Average hourly wage	.....	\$11.77	\$11.89
Median hourly wage	.....	\$11.00	\$11.00
Average annual earnings	.....	\$22,594	\$22,832
Median annual earnings	.....	\$21,120	\$21,120

Note: $n = 441$ for respondents 25 years and older, currently employed, and were employed before DACA. Figures exclude the bottom 1st and top 99th percentiles.

..... **On average, how many hours did you work per week before DACA?**
 ($n = 464$, which represents the 45.3% of respondents who are currently employed and were also employed before DACA)

			>= 25
Average hours worked per week	.....	35.8	36.2
Median hours worked per week	.....	40.0	40.0

Note: $n = 441$ for respondents 25 years and older, currently employed, and were employed before DACA. Figures exclude the bottom 1st and top 99th percentiles.

Education

Check all that apply. After my DACA application was approved, I...

(*n* = 1,157)

			>= 25
Pursued educational opportunities that I previously could not	.....	66.6%	60.4%
I haven't pursued more education yet, but I plan to	.....	26.7%	30.8%
I don't plan to pursue more education	.....	4.6%	5.4%

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 882 for all respondents 25 years and older.

Are you currently in school?

(*n* = 1,157)

			>= 25
Yes	.....	30.4%	21.9%
No	.....	69.6%	78.1%
			%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years and older.

..... **What degree are you currently pursuing?**

(*n* = 352, which represents the 30.4% of all respondents who are currently in school)

			>= 25
GED or equivalent	.....	—	—
High-school diploma	.....	—	—
Trade/technical/vocational degree or certificate	.....	7.7%	10.9%
Associate's degree	.....	15.9%	16.6%
Bachelor's degree	.....	47.4%	31.6%
Master's degree	.....	19.6%	26.9%
Professional degree above a master's degree	.....	2.3%	3.1%
Doctorate degree	.....	7.1%	10.9%
No response	.....	—	—
Bachelor's degree or higher	.....	76.4%	72.5%

Note: percentages may not sum to 100 due to rounding. *n* = 193 for respondents 25 years and older and currently in school.

What is the highest degree or level of school you have completed? If you are currently enrolled in school, what is the highest degree you have received thus far?

(*n* = 1,157)

			>= 25
GED or equivalent	.....	2.6%	2.8%
High-school diploma	.....	15.8%	14.5%
Trade/technical/vocational degree or certificate	.....	5.9%	6.6%
Associate's degree	.....	14.3%	12.9%
Some college	.....	18.6%	16.9%
Bachelor's degree	.....	30.8%	31.2%
Master's degree	.....	10.5%	13.0%
Professional degree above a master's degree	.....	0.9%	1.1%
Doctorate degree	.....	0.7%	0.9%
No response	.....	—	—
Bachelor's degree or higher	.....	42.9%	46.2%

Note: percentages may not sum to 100 due to rounding. *n* = 882 for respondents 25 years and older.

Potential Risks of Deporting DACA Recipients

Check all that apply. In my country of birth...

(*n* = 1,157)

			>= 25
The quality of life I would be able to provide for myself and my family	.....	3.8%	3.6%
would be better than in the U.S.			
I would be concerned about the physical safety of myself and my family	.....	81.6%	80.9%
I would be concerned about homelessness for myself and my family	.....	40.9%	41.7%
I would be concerned about food insecurity for myself and my family	.....	57.6%	56.6%
I would be concerned about the quality of healthcare for myself and my	.....	78.8%	78.3%
family			
I would be concerned about the quality of education for myself and my	.....	72.9%	69.9%
family			
I would be concerned about not knowing the language well enough		32.1%	29.5%
I would be able to get a job with better pay than in the U.S.	.....	2.4%	2.2%
I would be able to get a job that fits my education and training	.....	11.3%	10.7%
I would be able to get a job that fits my long-term career goals	.....	7.5%	7.0%

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 882 for all respondents 25 years and older.

Do you have an immediate family member, meaning a parent, sibling, spouse, or child, who still lives in your country of birth?

(*n* = 1,157)

			>= 25
Yes	.....	29.1%	32.5%
No	.....	70.9%	67.5%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years and older.

Inclusion and Belonging

Check all that apply. After my DACA application was approved, I...

(*n* = 1,157)

			>= 25
Have become more politically active	.....	46.1%	42.4%
Have become more involved in my community	.....	52.0%	49.4%
Am no longer afraid because of my immigration status	.....	63.1%	62.0%
Feel more like I belong in the U.S.	.....	63.0%	63.8%

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 882 for all respondents 25 years and older.

Check all that apply. After my DACA application was approved, I...

(*n* = 1,157)

			>= 25
Got a driver's license for the first time	.....	82.0%	81.7%
Got a state identification card for the first time	.....	60.1%	57.7%

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 882 for all respondents 25 years and older.

Do you have an immediate family member, meaning a parent, sibling, spouse, or child who is a U.S. citizen?

(*n* = 1,157)

			>= 25
Yes	.....	76.6%	77.6%
No	.....	23.4%	22.4%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years and older.

Do you have children?*(n* = 1,157)

			>= 25
Yes	.....	27.7%	34.9%
No	.....	72.3%	65.1%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years and older.

..... **Do you have U.S. citizen children?***(n* = 320, which represents the 27.7% of all respondents who have children)

			>= 25
Yes	.....	99.7%	99.7%
No	.....	—	—
No response	.....	0.3%	0.3%

Note: percentages may not sum to 100 due to rounding. *n* = 308 for all respondents 25 years and older with children.

Are you currently married?*(n* = 1,157)

			>= 25
Yes	.....	28.2%	34.2%
No	.....	71.8%	65.8%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years and older.

..... **Is your spouse a U.S. citizen?***(n* = 326, which represents the 28.2% of all respondents who are currently married)

			>= 25
Yes	.....	61.0%	57.9%
No	.....	38.7%	41.7%
No response	.....	0.3%	0.3%

Note: percentages may not sum to 100 due to rounding. *n* = 302 for all respondents 25 years and currently married.

Survey Experiment

α_0 : How likely are you to do the following?

t_1 : If you no longer had DACA, how likely are you to do the following?

($n = 1,157$)

	α_0	t_1
	Likely/Very Likely	Likely/Very Likely
Report a crime that you were a victim of to the police	76.5%	45.9%
Use public services (e.g., go to City Hall) that required you to give your personal contact information	64.2%	21.4%
Do business (e.g., open a bank account, get a loan) that required you to give your personal contact information	90.9%	32.9%
Participate in public events where police may be present	57.3%	25.3%
Place your children in an after-school or day-care program*	66.5%	41.4%
Report wage theft or other abuses by your employer if needed	78.3%	28.7%
Continue your education if needed**	100.0%	43.1%
Pursue new educational opportunities if needed	94.9%	27.5%
Seek testing or treatment for COVID-19 if needed	90.0%	50.7%

Note: respondents were randomized into one of two conditions: α_0 or t_1 .

Concerns About Immigration Enforcement

How often do you think about the following?

(*n* = 1,157)

“Being detained in an immigration detention facility”

		>= 25	w/children
A few times an hour	2.8%	2.9%	2.8%
About once an hour	0.8%	0.8%	0.3%
A few times a day	10.9%	10.7%	13.8%
About once a day	19.7%	18.1%	20.0%
Less than once a day	45.6%	45.7%	42.5%
Never	20.2%	21.8%	20.6%
No response	—	—	—
About once a day or more	34.2%	32.5%	36.9%

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years and older. *n* = 320 for all respondents with children.

“Being deported from the U.S.”

		>= 25	w/children
A few times an hour	3.6%	3.7%	4.1%
About once an hour	1.2%	1.1%	1.3%
A few times a day	14.5%	13.9%	19.1%
About once a day	25.2%	22.8%	24.1%
Less than once a day	42.3%	44.3%	38.1%
Never	13.2%	14.1%	13.4%
No response	—	—	—
About once a day or more	44.5%	41.5%	48.5%

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years and older. *n* = 320 for all respondents with children.

“A family member being detained in an immigration detention facility”

		>= 25	w/children
A few times an hour	4.9%	5.0%	5.0%
About once an hour	2.4%	1.9%	2.8%
A few times a day	19.5%	17.6%	23.1%
About once a day	29.0%	27.4%	29.4%
Less than once a day	30.6%	33.0%	22.8%
Never	13.5%	15.1%	16.9%
No response	—	—	—
About once a day or more	55.8%	51.9%	60.3%

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years and older. *n* = 320 for all respondents with children.

“A family member being deported from the U.S.”

		>= 25	w/children
A few times an hour	5.0%	5.0%	5.0%
About once an hour	2.4%	1.9%	2.8%
A few times a day	18.1%	16.6%	21.6%
About once a day	30.7%	28.8%	31.3%
Less than once a day	31.0%	33.6%	23.8%
Never	12.8%	14.2%	15.6%
No response	—	—	—
About once a day or more	56.2%	52.3%	60.7%

Note: percentages may not sum to 100 due to rounding. $n = 882$ for all respondents 25 years and older. $n = 320$ for all respondents with children.

“Congress passing a new law that provides legal status for undocumented youth”

		>= 25	w/children
A few times an hour	8.6%	8.4%	10.9%
About once an hour	5.6%	5.6%	7.8%
A few times a day	26.4%	26.9%	30.6%
About once a day	30.9%	30.6%	30.0%
Less than once a day	22.4%	22.1%	15.6%
Never	6.1%	6.4%	5.0%
No response	—	—	—
About once a day or more	71.5%	71.5%	79.3%

Note: percentages may not sum to 100 due to rounding. $n = 882$ for all respondents 25 years and older. $n = 320$ for all respondents with children.

..... How often do you think about the following?

($n = 320$, which represents the 27.7% of all respondents who have children)

“Being separated from my children because of deportation”

A few times an hour	16.6%
About once an hour	4.4%
A few times a day	28.4%
About once a day	27.2%
Less than once a day	15.9%
Never	7.5%
No response	—
About once a day or more	76.6%

Note: percentages may not sum to 100 due to rounding.

“Not being able to see my children grow up because of deportation”

A few times an hour	15.9%
About once an hour	4.7%
A few times a day	28.1%
About once a day	24.1%
Less than once a day	17.2%
Never	10.0%
No response	—
About once a day or more	72.8%

Note: percentages may not sum to 100 due to rounding.

Impact of DHS Memo

On July 28th, 2020, major changes were made to the DACA program. One major change includes granting 1 year of protection from deportation and work authorization per renewal instead of 2 years of protection from deportation and work authorization per renewal. Which of the following concerns do you have about this change?
(*n* = 1,157)

			>= 25
Having only 1 year of DACA makes me more vulnerable to deportation	62.7%	60.8%	
Having only 1 year of DACA makes it more difficult for me to keep my job*	56.1%	59.3%	
Having only 1 year of DACA makes it more difficult for me to stay in college**	40.0%	36.2%	
The cost of applying to renew my DACA every year would be too much for me to afford	65.7%	61.4%	
I am concerned this means that the DACA program will be changed again	72.3%	72.6%	
I am concerned this means that the DACA program will end	74.7%	74.2%	

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 882 for all respondents 25 years and older. * *n* = 1,024 for all respondents currently employed and *n* = 786 for all respondents 25 years and older and currently employed. ** *n* = 269 for all respondents currently in college and *n* = 140 for all respondents 25 years and older and currently in college.

Thinking about your most recent DACA renewal, how many months did it take for your DACA renewal application to be approved?

(*n* = 1,157)

Less than 1 month	10.9%
1 month	23.3%
2 months	25.9%
3 months	18.4%
4 months	8.3%
5 months	4.8%
6 months	3.8%
7 months	1.1%
8 months	0.9%
9 months	1.1%
10 months	0.7%
11 months	0.3%
12 months	—
Longer than 12 months	0.5%
No response	—

Note: percentages may not sum to 100 due to rounding.

COVID-19

Check all that apply. During the COVID-19 pandemic...

(*n* = 1,157)

			>= 25
*I lost my job due to the COVID-19 pandemic	.....	45.1%	44.8%
**My work hours were reduced due to the COVID-19 pandemic	.....	24.0%	21.4%
**My pay was reduced due to the COVID-19 pandemic	.....	6.3%	6.7%
**I have continued to work during the COVID-19 pandemic due to being an essential worker	.....	57.7%	59.3%
***I have continued to work during the COVID-19 pandemic, but have not been given personal protective equipment (PPE) by my employer	.....	14.0%	8.2%

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 882 for all respondents 25 years and older. * *n* = 133 for all respondents currently not employed and *n* = 96 for all respondents 25 years and older and currently not employed. ** *n* = 1,024 for all respondents currently employed and *n* = 193 for all respondents 25 years and older and currently employed. *** Among respondents who are essential workers.

Have you had difficulty paying your mortgage due to the COVID-19 pandemic?

(*n* = 280, which represents the 24.2% of all respondents who own a home)

			>= 25
Yes	.....	18.9%	18.7%
No	.....	81.1%	81.3%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years or older.

Have you had difficulty paying your rent due to the COVID-19 pandemic?

(*n* = 877, which represents the 75.8% of all respondents who do not own a home)

			>= 25
Yes	.....	32.4%	27.9%
No	.....	67.6%	72.1%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years or older.

Was anyone in your home who was otherwise eligible for a stimulus check and had a Social Security Number (SSN) denied a stimulus check because their spouse or parents filed taxes with an ITIN?

(*n* = 1,157)

			>= 25
Yes	.....	24.0%	22.8%
No	.....	58.0%	61.2%
Unsure	.....	17.9%	16.0%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years or older.

Civic Engagement

Do you plan on using your voice to encourage family members and friends who can vote to do so in the November 2020 general election?

(*n* = 1,157)

			>= 25
Yes	.....	94.4%	93.8%
No	.....	5.6%	6.2%
No response	.....	—	—

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years or older.

Check all that apply. After my initial DACA application was approved, I...

(*n* = 1,157)

			>= 25
Have become more politically active	.....	46.1%	42.4%
Have become more involved in my community	.....	52.0%	49.4%
Am no longer afraid because of my immigration status	.....	62.1%	62.0%
Feel more like I belong in the U.S.	.....	63.0%	63.8%
Contacted or tried to contact a member of the U.S. Senate or U.S. House of Representatives	.....	33.9%	33.6%
Contacted or tried to contact a member of my state or local government	.....	30.0%	27.4%

Note: percentages do not sum to 100 as individuals may select all that apply. *n* = 882 for all respondents 25 years or older.

From what you have seen and heard, how do you feel about the Black Lives Matter movement?

(*n* = 1,157)

			>= 25
Strongly support	.....	68.9%	64.7%
Support	.....	20.7%	22.8%
Neither support nor oppose	.....	9.1%	10.8%
Oppose	.....	0.4%	0.5%
Strongly oppose	.....	0.8%	1.0%
No response	.....	0.2%	0.2%
Support/Strongly support	.....	89.6%	87.5%

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years or older.

During the past 12 months, have you participated in a campaign to protest the killing of unarmed Black men and women?

(*n* = 1,157)

			>= 25
Yes	.....	41.2%	37.4%
No	.....	58.7%	62.5%
No response	.....	0.1%	0.1%

Note: percentages may not sum to 100 due to rounding. *n* = 882 for all respondents 25 years or older.

In what state do you live?*(n* = 1,157)

	Poll %
California - CA	30.1%
Texas – TX	11.5%
Illinois – IL	6.1%
New York - NY	5.6%
Florida - FL	5.5%
Arizona - AZ	4.6%
Colorado – CO	3.2%
North Carolina – NC	3.1%
Washington – WA	3.0%
New Jersey – NJ	2.6%
Georgia – GA	1.8%
New Mexico – NM	1.6%
Massachusetts – MA	1.4%
Nevada - NV	1.4%
Virginia – VA	1.4%
Oregon – OR	1.3%
Utah – UT	1.3%
Tennessee – TN	1.2%
Connecticut – CT	1.1%
Oklahoma – OK	1.1%
Indiana – IN	1.0%
Kansas – KS	1.0%
Other	9.2%

Note: percentages may not sum to 100 due to rounding.

What is your age?
(*n* = 1,157)

Average	.....	28.2
Median	.....	28
18	.....	0.4%
19	.....	1.7%
20	.....	2.7%
21	.....	3.4%
22	.....	3.5%
23	.....	5.5%
24	.....	6.7%
25	.....	6.6%
26	.....	7.9%
27	.....	7.4%
28	.....	7.4%
29	.....	6.9%
30	.....	8.6%
31	.....	6.7%
32	.....	5.9%
33	.....	4.2%
34	.....	3.9%
35	.....	3.6%
36	.....	2.6%
37	.....	2.5%
38	.....	1.6%
39	.....	0.3%

Note: percentages may not sum to 100 due to rounding.

How old were you when you first came to the U.S.?
(*n* = 1,157)

Average	.....	6.6
Median	.....	6
0	.....	4.6%
1	.....	7.6%
2	.....	7.7%
3	.....	9.2%
4	.....	8.4%
5	.....	8.5%
6	.....	7.4%
7	.....	8.1%
8	.....	6.6%
9	.....	7.4%
10	.....	5.7%
11	4.1%
12	5.1%
13	2.9%
14	4.3%
15	2.5%

Note: percentages may not sum to 100 due to rounding.



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ARTICLE JUL 8, 2014

Statistical Analysis Shows that Violence, Not Deferred Action, Is Behind the Surge of Unaccompanied Children Crossing the Border

Based on a statistical analysis of unaccompanied children arrivals data, border security statistics, and violence levels in Central America, it is clear that violence in countries such as Guatemala, Honduras, and El Salvador—rather than deferred action or lax U.S. border enforcement—is driving the increase in unaccompanied children.

AUTHORS



Tom K. Wong

Immigration, Latin America, Refugees





Two young girls sit in their holding area where hundreds of mostly Central American immigrant children are being processed and held at the U.S. Customs and Border Protection Nogales Placement Center on June 18, 2014, in Nogales, Arizona. (AP/Ross D. Franklin)

A humanitarian refugee situation at the U.S. southern border has been unfolding over the past few years and dramatically intensifying over the past several months, as tens of thousands of unaccompanied children are fleeing their homes in Honduras, Guatemala, and El Salvador. In search of a safe haven, these children embark on dangerous journeys, arriving in the United States and neighboring countries throughout Central America. Indeed, according to the Office of the U.N. High Commissioner for Refugees, or UNHCR, asylum applications from children are up by 712 percent in the neighboring countries of Mexico, Panama, Nicaragua, Costa Rica, and Belize. Sen. Dianne Feinstein (D-CA) has argued that “many of the children apprehended at the border are fleeing unspeakable violence in their home countries.”

Even as the Obama administration struggles to deal with the situation, including finding adequate shelter and protection for the kids, some in Congress have attempted to score political points by arguing that the increased numbers are the result of the administration’s own immigration enforcement policies, such as the creation of the Deferred Action for Childhood Arrivals, or DACA, program in 2012, which grants eligible unauthorized youth a two-year reprieve from deportation and a work permit. Rep. Darrell Issa (R-CA), for example, called on President Barack Obama to end the DACA program and begin deporting those with the status to send a message to prospective child refugees that they should not come to the United States. However, a close statistical evaluation of the available data suggests a very different dynamic that is leading children to leave their Central American homes. It is not U.S. policy but rather violence and the desire to find safety that is the impetus for these children’s journeys.

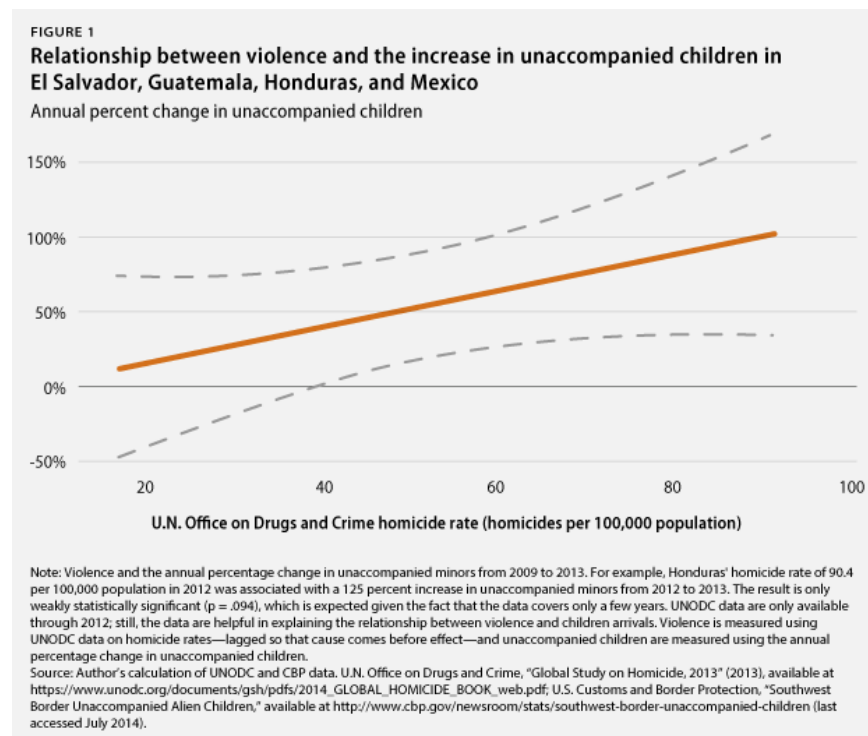
An analysis of the available data suggests that:

- Violence is among of the main drivers causing the increase. Whereas Central American countries that are experiencing high levels of violence have seen thousands of children flee, others with lower levels of violence are not facing the same outflow.
- By contrast, the evidence does not support the argument that DACA or lax border enforcement has caused the increase in children fleeing to the United States.

Violence is causing children to flee Honduras, Guatemala, and El Salvador

How can it be determined that violence is a primary factor causing children to flee? One way is to use the U.N. Office on Drugs and Crime, or UNODC, [data on homicides](#) and homicide rates by country. Coupling this data with that of the number of children arriving each year allows us to examine the relationship between violence and children arrivals.

Figure 1 shows how violence affects the flow of children. The relationship is positive, meaning that higher rates of homicide in countries such as Honduras, El Salvador, and Guatemala are related to greater numbers of children fleeing to the United States.



Another way to examine the relationship between violence and unaccompanied children is to use the data on [security levels in Latin America](#) compiled by FTI Consulting, a global business advisory firm headquartered in Washington, D.C. The annual index ranges from 1 (safe) to 5 (very dangerous) for each country, and data are available from 2009 to 2014. Here again, the relationship is positive, meaning that more dangerous security conditions are related to greater numbers of unaccompanied children. Using the FTI Consulting index data provides an even more strongly statistically significant result, suggesting an even clearer link between violence and children fleeing.

Not only do countries with the highest rates of homicide have the largest numbers of unaccompanied children fleeing, but the data also make clear that countries in Latin

America with lower rates of homicide are not sending large numbers of unaccompanied children.

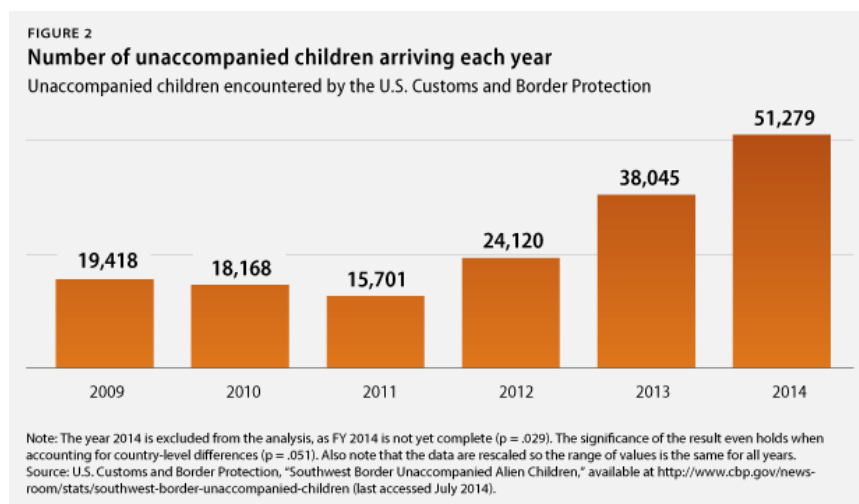
In 2012, the countries of El Salvador, Guatemala, Honduras, and Mexico accounted for 41,828 homicides, at a rate of 28 per 100,000 people. Exclude Mexico and the murder rate jumps to 54 per 100,000 people. The president of Honduras has gone as far as calling the children refugees from “war” in his country. By contrast, other countries in the region, such as Belize, Costa Rica, Nicaragua, and Panama had a total of just 1,881 murders, at a rate of only 13 per 100,000. Nicaragua is particularly useful as an example: It is the second-poorest country in the region—behind only Haiti—and yet, with far lower rates of violence than the three main sending countries, it has not seen an uptick in unaccompanied children leaving.

These findings reinforce a report released by DHS that shows that many of the unaccompanied minors who have recently arrived come from some of the most dangerous cities in Central America.

DACA or lax border enforcement is not to blame

DACA

In fiscal year 2009, the U.S. Customs and Border Protection, or CBP, encountered slightly fewer than 20,000 unaccompanied children from Honduras, El Salvador, Guatemala, and Mexico. So far in FY 2014, more than 51,000 children have entered, with the increase almost entirely coming from Honduras, El Salvador, and Guatemala. (see Figure 2)



The sharp increase during FY 2012 has been used by senators such as Ted Cruz (R-TX) to argue that the creation of the DACA program in June 2012 is the reason “that we have seen the number of children taking the incredible risks entailed with coming across the border grow exponentially.”

There are two problems with this line of thinking. For one, the increase in unaccompanied children began well before 2012. CBP estimates that between 2008 and 2009, for example, there was a 145 percent spike in unaccompanied children arrivals, jumping from 8,041 to 19,668.

But even more importantly, the U.S. fiscal year starts on October 1 and ends on September 30 of the following year. This means that FY 2012 actually started in October 2011 and ended in September 2012. Considering that applications for deferred action could only be submitted starting on August 15, 2012, it is highly unlikely that DACA

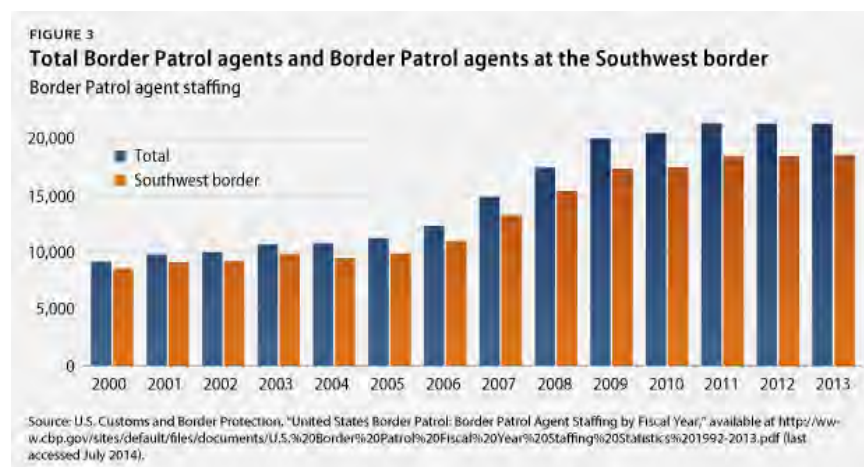
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caused an increase in children. Data on monthly border apprehensions—which admittedly do not distinguish between unaccompanied children and all others caught at the border—show that the number of people caught at the border actually slowed in the months after DACA was announced.

Border enforcement

Arguments such as those of Sen. Cruz connecting DACA to the increase in unaccompanied children also cite lax border security by the Obama administration as an additional contributing factor. But these arguments, such as those about DACA, are equally unsupported by the data. To give just a few examples:

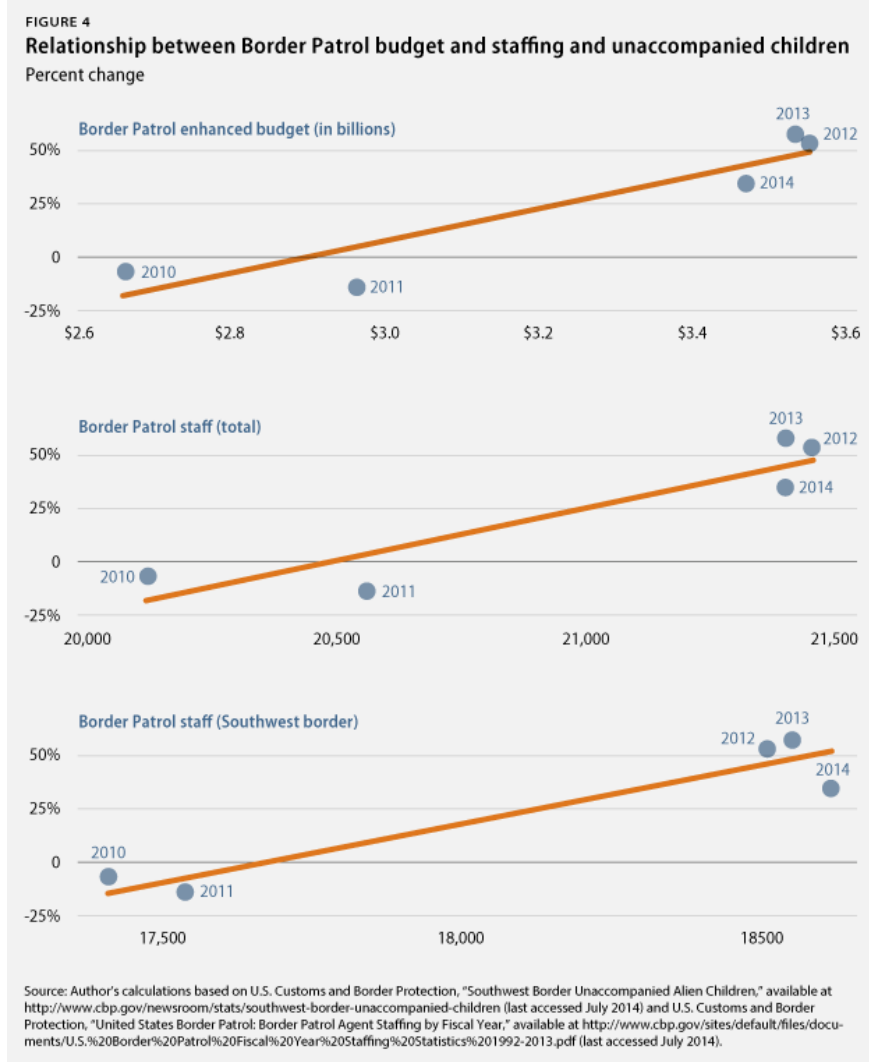
- Under the Obama administration, funding for the Border Patrol has reached record levels, increasing from \$2.3 billion at the end of the Bush administration in 2008 to \$3.5 billion in FY 2013—an increase of 52 percent.
- The number of Border Patrol agents in general, and at the southwest border, now stand at record levels. (see Figure 3)



If lax border security were contributing to the increase in children arriving, we would expect to see a negative relationship between border security metrics and the number of unaccompanied children entering the United States. To put it another way, we would expect more children to arrive as border security efforts decrease. Instead, the opposite has occurred: As the United States has ramped up its border enforcement, more children have come. (see Figure 4)

To be clear, this should not be interpreted to mean that more border security means more unaccompanied children—again, we only have a handful of observations to analyze. Rather, the data suggest that the recent increase in unaccompanied children is not the result of lax border security, but is occurring despite record levels of border security spending and staffing.

And from recent press reports, it is clear that our border security policies are working exactly as intended: Numerous stories note that the Border Patrol is apprehending these kids upon entry, or soon after. Here too, the evidence is clear that border enforcement policies are not driving the surge in unaccompanied children.



Conclusion

Instead of attempting to repeal programs such as DACA, the United States should—as Sen. Robert Menendez (D-NJ) has suggested—ensure that these children are safe and secure, go after the smugglers and traffickers bringing them here in the first place, and seek solutions that help quell the violence in these children’s home countries. The data show that this situation is a humanitarian and refugee issue, not an immigration issue, and all sides must not lose sight of the children themselves who are at the heart of the matter.

Tom K. Wong is an assistant professor of political science at the University of California, San Diego.

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Written Testimony of

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Before the

United States House of Representatives
Committee on the Judiciary

February 25, 2015

Mr. Chairman and Honorable members of the committee, thank you for the opportunity to testify before you. My name is Stephen H. Legomsky. I am the John S. Lehmann University Professor at the Washington University School of Law. I have taught U.S. immigration law for more than 30 years and am the author (co-author starting with the fifth edition) of the law school textbook “Immigration and Refugee Law and Policy.” This book is now in its sixth edition and has been the required text for immigration courses at 183 U.S. law schools since its inception. From 2011 to 2013 I had the honor of serving as the Chief Counsel of U.S. Citizenship and Immigration Services, in the Department of Homeland Security. I have had the privilege of advising both Democratic and Republican administrations and several foreign governments on immigration policy. I have held visiting academic appointments at universities in twelve countries.

The issues that are the subject of today’s hearing are ones that I have studied carefully. While I appreciate that reasonable minds can and do differ about the *policy* decisions, I take this opportunity to respectfully share my opinion that the President’s actions are well within his *legal* authority. This conclusion is shared not only by the Justice Department’s Office of Legal Counsel, but also by the overwhelming majority of our country’s immigration law professors and scholars. On November 25, 2014, some 135 scholars and teachers of immigration law joined in a letter expressing their view that the recent executive actions are “well within the legal authority of the executive branch of the government of the United States.”¹ The signers are people whose years and often decades of studying, teaching, and writing on immigration law have immersed them in the intricacies of the governing statute and related law. They are very familiar with what the statute allows and what it forbids.

The principal executive actions at the heart of the debate are those announced by President Obama, and set forth in official memoranda from Secretary of Homeland Security Jeh Charles Johnson, on November 20, 2014. One memorandum, which I’ll refer to here as the “Prosecutorial Discretion Memo,” lays out the Secretary’s priorities for the apprehension,

¹ See <https://pennstatelaw.psu.edu/sites/default/files/documents/pdfs/Immigrants/executive-action-law-prof-letter.pdf>. The quoted conclusion appears on page 7 of the letter.

detention, and removal of aliens.² Generally, this memorandum continues the Department’s prioritization of removals that contribute to national security, public safety, and border security. The other memorandum at the center of the debate,³ issued on the same date (and referred to here as the “DACA/DAPA Memo”) does two things. First, it expands the “DACA” program, which was originally announced on June 15, 2012.⁴ DACA allows deferred action for certain individuals who arrived in the United States as children. Second, this latter memorandum establishes a program (informally known as “DAPA”) that allows deferred action for certain parents of U.S. citizens or lawful permanent residents.

The critics of these actions have charged that they violate the President’s duty, imposed by article II, section 3 of the Constitution, to “take Care that the Laws be faithfully executed” -- in this case, the immigration laws. The district court for the District of Columbia concluded that that argument is unlikely to succeed. *Arpaio v. Obama*, Civ. Action No. 14-01966 (BHH) (Dec. 23, 2014). In contrast, the district court for the Southern District of Texas hinted that that argument might prevail but at this writing has not yet decided, electing instead to issue a preliminary injunction on a different ground – that the plaintiffs were likely to succeed with their argument that the Administrative Procedure Act (APA) required a notice-and-comment procedure. *State of Texas v. United States*, Civ. No. B-14-254 (S.D. Tex. Feb. 16, 2015) [hereinafter cited as *Texas 2015*].⁵

This testimony focuses mainly on the constitutional issue. That discussion appears in section I below and turns heavily on both general principles of public law and the interpretation of the Immigration and Nationality Act. Because the pending Texas litigation raises additional issues concerning (a) the standing of states to challenge DACA and DAPA and (b) the interpretation of the APA, I comment on those issues as well, in sections II and III respectively. The opposing briefs in the Texas case lay out the legal arguments on both standing and the APA in great detail; in sections II and III, therefore, I merely highlight a few key points.

I THE RECENT EXECUTIVE ACTIONS ARE WELL WITHIN THE ADMINISTRATION’S LEGAL AUTHORITY

Attempts to find legal flaws in these executive actions have tended to fall into two categories.

² Memorandum from Jeh Charles Johnson, Secretary of Homeland Security, Policies for the Apprehension, Detention, and Removal of Undocumented Immigrants (Nov. 20, 2014).

³ Memorandum from Jeh Charles Johnson, Secretary of Homeland Security, Exercising Prosecutorial Discretion with Respect to Individuals Who Came to the United States as Children and with Respect to Certain Individuals Who Are the Parents of U.S. Citizens or Permanent Residents (Nov. 20, 2014).

⁴ Memorandum from Janet Napolitano, Secretary of Homeland Security, Exercising Prosecutorial Discretion with Respect to Individuals Who Came to the United States as Children (June 15, 2012).

⁵ For a powerful criticism of Judge Hanen’s opinion in *Texas 2015*, see Anil Kalhan, *Is Judge Hanen’s Smackdown of Executive Action on Immigration “Narrowly Crafted”?*, Dorf on Law (Feb. 21, 2015), <http://www.dorfonlaw.org/2015/02/is-judge-hanens-smackdown-of-executive.html> (observing that the opinion is chock full of factual exaggerations, false statements of the evidence, selective citation of evidence, and distortions of the government’s legal arguments).

Some of the arguments are meant to show that there is no affirmative legal authority for either the Prosecutorial Discretion Memo or the DACA/DAPA memo. Other arguments are meant to show that these policies actually conflict with either the letter or the spirit of the Immigration and Nationality Act. In this section I consider each of those concerns in turn and then briefly discuss a few miscellaneous arguments that some of the President’s critics have offered.

A. There is ample affirmative legal authority for both the Prosecutorial Discretion Memo and the DACA/DAPA Memo.

1. Prosecutorial Discretion

Prosecutorial discretion is a long-established, and unavoidable, practice in every area of law enforcement today, both civil and criminal. The basic idea is straightforward: When a law enforcement agency has only enough resources to go after a fraction of the individuals whom it suspects of violating the relevant law, it has to make choices. There is no alternative.

In the specific context of immigration, Congress has explicitly authorized – arguably, in fact, *required* – the Department of Homeland Security to exercise prosecutorial discretion. In 6 U.S.C. § 202(5), Congress expressly makes the Secretary of Homeland Security “responsible” for “establishing national immigration enforcement policies and priorities.” Establishing enforcement policies and priorities is the very definition of prosecutorial discretion.

If any further support were needed, the congressional intent can be conclusively inferred from the annual congressional appropriations Acts. Year after year, Congress gives the Administration only enough money to pursue a small fraction of the undocumented population. No one seriously disputes Congress’s conscious awareness that its appropriations for immigration enforcement fall far short of what the Administration would need for 100% enforcement. Congress knows that there are about 11 million undocumented immigrants living in the U.S., and it knows that the resources it is appropriating enable the Administration to go after fewer than 400,000 of them per year, less than 4% of that population. In practice, DHS resources are stretched even thinner than that, because (a) a large portion of the resources must be allocated to border apprehensions; and (b) an increasingly higher percentage of unauthorized entries are by nationals of countries other than Mexico; removal of those individuals is far more resource-intensive. This means more than that prosecutorial discretion is unavoidable; it is also the clearest evidence possible that Congress *intends* for the Department of Homeland Security, like practically every other law enforcement agency in the country, to use its discretion to decide how those limited resources can be most effectively deployed.

The appropriations Acts, in fact, do more than simply evidence Congress’s intent that the Administration formulate enforcement priorities. They actually mandate a specific priority on the removal of criminal offenders and, within that group of individuals, sub-priorities that depend on the severity of the crime. These mandates have been included in every annual DHS appropriations Act since the one for fiscal year 2009.⁶ As discussed at the end of section B

⁶ E.g., Consolidated Appropriations Act 2014, Pub. L. 113-76, Div. F, title II, 128 Stat. 5, 251 (2014); Consolidated

below, the President's recent executive actions adopt precisely these crime-related and other public safety priorities.

For still more support, one need only turn to the decision of the U.S. Supreme Court in *Arizona v. United States*, 132 S.Ct. 2492 (2012). There the Court struck down most of Arizona's immigration enforcement statute, precisely because it would interfere with the broad enforcement discretion of the federal government. On that point the Court was emphatic:

A principal feature of the removal system is the broad discretion exercised by immigration officials. ... *Federal officials, as an initial matter, must decide whether it makes sense to pursue removal at all.* ...

Discretion in the enforcement of immigration law embraces immediate human concerns. Unauthorized workers trying to support their families, for example, likely pose less danger than alien smugglers or aliens who commit a serious crime. The equities of an individual case may turn on many factors, including whether the alien has children born in the United States, long ties to the community, or a record of distinguished military service. Some discretionary decisions involve policy choices that bear on this Nation's international relations. Returning an alien to his own country may be deemed inappropriate even where he has committed a removable offense or fails to meet the criteria for admission. The foreign state may be mired in civil war, complicit in political persecution, or enduring conditions that create a real risk that the alien or his family will be harmed upon return. The dynamic nature of relations with other countries requires the Executive Branch to ensure that enforcement policies are consistent with this Nation's foreign policy with respect to these and other realities.

Id. at 2499 [emphasis added].

These authoritative recognitions of broad prosecutorial discretion – 6 U.S.C. § 202(5), the annual congressional appropriations Acts, and the Supreme Court decision in *Arizona v. United States* – are all specific to immigration law. They are further reinforced by the longstanding judicial endorsements of prosecutorial discretion in law enforcement more generally. One of the leading cases is *Heckler v. Chaney*, 470 U.S. 821 (1985). State prisoners on death row sought to compel the Food and Drug Administration to ban the drug that was to be used for their executions. The Court held that the FDA's decision not to take any enforcement action with respect to that drug was unreviewable because the decision was “committed to agency discretion by law” within the meaning of the Administrative Procedure Act, 5 U.S.C. § 701(a)(2). The Court said: “This Court has recognized on several occasions over many years that an agency's decision not to prosecute or enforce, *whether through civil or criminal process*,⁷ is a decision generally committed to an

Security, Disaster Assistance, and Continuing Appropriations Act 2009, Pub. L. 110-239, 122 Stat. 3574, 3659 (Sept. 30, 2008), <http://www.gpo.gov/fdsys/pkg/PLAW-110publ329/pdf/PLAW-110publ329.pdf>.

⁷ Emphasis added. I highlight this phrase only because one of the witnesses at a Dec. 2, 2014 House Judiciary Committee hearing asserted that prosecutorial discretion is limited to criminal cases and thus does not apply at all to civil enforcement contexts such as immigration. Testimony of Ronald D. Rotunda, *The President's Power to Waive*

agency’s absolute discretion” [citing several cases]. *Heckler*, 470 U.S. at 831.

The Court relied on the breadth of an enforcement agency’s prosecutorial discretion in concluding that non-enforcement decisions were ordinarily unreviewable. It explained:

First, an agency decision not to enforce often involves a complicated balancing of a number of factors which are peculiarly within its expertise. Thus, the agency must not only assess whether a violation has occurred, but whether agency resources are best spent on this violation or another, whether the agency is likely to succeed if it acts, whether the particular enforcement action requested best fits the agency’s overall policies, and indeed, whether the agency has enough resources to undertake the action at all. An agency generally cannot act against each technical violation of the statute it is charged with enforcing. The agency is far better equipped than the courts to deal with the many variables involved in the proper ordering of its priorities. ...

Id. at 831-32.

One other statement in *Chaney* must be acknowledged. In a footnote, the Court added a dictum on which critics of the President’s recently-announced decision have sometimes relied: “Nor do we have a situation where it could justifiably be found that the agency has ‘consciously and expressly adopted a general policy’ that is so extreme as to amount to an abdication of its statutory responsibilities” [quoting *Adams v. Richardson*, 480 F.2d 1159 (D.C. Cir. 1973)]. Such policies, the Court said, “might indicate that such decisions were not ‘committed to agency discretion’” (and thus might be judicially reviewable). *Id.* at 833 n.4.

But such is not the case here, because the Administration’s recent executive actions do not even approach “an abdication of its statutory responsibilities.” The discussion in section A.2.c below elaborates on the limits of prosecutorial discretion. As explained there, even the combination of the Prosecutorial Discretion Memo and the DACA/DAPA Memo will still leave far more undocumented immigrants (and border arrivals) than DHS will have the resources to pursue. Thus, the new policies will not prevent the Administration from continuing to enforce the

the Immigration Laws, Comm. on the Judiciary, U.S. House of Reps. (Dec. 2, 2014), at 10-11. Professor Rotunda cites no authority for this novel position. To the contrary, the highlighted language in *Chaney*, together with its explicit recognition of prosecutorial discretion in the indisputably civil context of FDA enforcement, is alone enough to debunk it. The previously-discussed decision in *Arizona v. United States*, in the specific context of immigration, further illustrates that prosecutorial discretion extends to civil enforcement. And if it were otherwise, it would be impossible for civil enforcement agencies to comply with the law unless – as would be rare indeed – they were so flush with resources that they could literally afford to prosecute every actor whom they suspect of having violated the relevant law. Professor Rotunda seeks to distinguish *Chaney* by asserting that it was decided on standing grounds, not on prosecutorial discretion grounds. *Id.* at 16. That claim too is both novel and indefensible. First, the word “standing” never appears anywhere in the opinion. Second, it is unimaginable that a court would hold that a person about to be executed – and with a drug that he argued would cause excruciating pain – lacks enough of a personal interest to establish standing. Third, there is no need to speculate, because the Court made its reliance on the broad nature of the agency’s enforcement discretion explicit, as the passages quoted above illustrate. Despite these obvious flaws, Judge Hanen effectively credits Prof. Rotunda’s novel (and indefensible) theory and turns it into a form of standing that he admits no court has ever recognized.

immigration laws to the full extent the appropriated resources allow. Under those circumstances, as long as the President continues to spend the immigration enforcement resources that Congress has appropriated, then absent some violation of an affirmative congressional mandate (which the next section of this testimony demonstrates does not exist), there is no basis for a claim of abdication.

As the Congressional Research Service has found, “no court appears to have invalidated a policy of non-enforcement founded upon prosecutorial discretion on the grounds that the policy violated the Take Care Clause.” Kate Manuel & Tom Garvey, Congressional Research Service, *Prosecutorial Discretion in Immigration Enforcement* (January 17, 2013), at 17. In a unanimous opinion, the Court of Appeals for the Fifth Circuit concluded: “We reject out-of-hand the State's contention that the federal defendants' alleged systemic failure to control immigration is so extreme as to constitute a reviewable abdication of duty.” *Texas v. United States*, 106 F.3d 661, 667 (5th Cir. 1997). The important takeaway is the standard that the court carefully articulated for finding an abdication: The State of Texas lost because “[t]he State does not contend that federal defendants are doing *nothing* to enforce the immigration laws or that they have *consciously* decided to abdicate their enforcement responsibilities. Real or perceived *inadequate* enforcement of immigration laws does not constitute a reviewable abdication of duty” [all emphases added]. *Id.* No one can credibly claim that an Administration that is spending all the immigration enforcement resources Congress has given it is doing “nothing” to enforce the laws, much less that the Administration has “consciously” decided to abdicate its responsibilities. And if an abdication claim could be “reject[ed] out of hand” even then, when the number of unauthorized entries was greater than today and the number of removals lower, there is even less room to intimate that the government’s current policies somehow amount to abdication.

Even *Massachusetts v. EPA*, 549 U.S. 497 (2007), the case most frequently cited by those who seek to narrow the scope of prosecutorial discretion, is perfectly consistent with the recent executive actions. In that case, the EPA had refused to regulate carbon dioxide emissions from motor vehicles. The court found the EPA’s explanations for its decision wanting. Even then, the court did not require the EPA to begin regulating those emissions; it merely remanded the case with instructions for the EPA to provide a better-reasoned explanation for its decision. In contrast, the Obama Administration has provided detailed, reasoned explanations for its prosecutorial discretion priorities (national security, public safety, and border security are rational enforcement priorities and in fact coincide with those that Congress itself has mandated; DACA and DAPA together bring people out of the shadows, keep families together, and recognize the moral innocence of those who were brought here as children).

As the above discussion illustrates, there is clear legal authority for prosecutorial discretion in the enforcement of the immigration laws. Even Judge Hanen agrees. See Texas 2015 at 86-87, 92 (“this court finds nothing unlawful about the Secretary’s priorities.”) But what is the affirmative legal authority for employing deferred action as the specific vehicle for these recent exercises of prosecutorial discretion?

2. *Deferred Action*

The most important point is that deferred action is nothing more than a tentative, revocable signal to a noncitizen that the government does not intend to initiate removal proceedings, at least for the moment. As the regulations explain, deferred action is simply “an act of administrative convenience to the government which gives some cases lower priority.” 8 CFR § 274a.12(c)(14). To be sure, once granted, it can have various consequences. But there is nothing “affirmative” about deferred action itself, other than the act of communicating to the particular individuals that they will not be immediate priorities for removal.

That fact is often lost, since deferred action recipients benefit indirectly in various ways beyond not being immediately placed in removal proceedings. USCIS will exercise its authority under 8 USC § 1182(a)(9)(B)(ii) to authorize a “period of stay” while deferred action is in effect; by the terms of the same statutory provision the recipients are thus treated as “lawfully present” for certain narrow purposes (though deferred action will not erase their prior unlawful presence). Under the regulations, as discussed below, they are eligible for temporary work permits if they demonstrate economic necessity. 8 CFR § 274a.12(c)(14). And those temporary work permits in turn will enable them to obtain temporary social security cards. See Social Security Act, § 205(c)(2)(B)(i)(I) (requiring issuance of social security numbers to noncitizens when there is “authority of law permitting them to engage in employment in the United States”).

Judge Hanen relied heavily on those ripple effects. He accepted the recent prosecutorial discretion policy but concluded that DAPA is illegal nonetheless because “[e]xercising prosecutorial discretion and/or refusing to enforce a statute does not also entail bestowing benefits.” *Texas 2015* at 87.

But the key is this: The recent executive actions do not change any of those benefit policies. Deferred action recipients have long been deemed not to be unlawfully present (though they do not receive an immigration “status” as Judge Hanen continually implies); they have long been eligible for work permits; and they have long been eligible for social security cards as a result. None of that has changed. The executive actions greatly expand the number of individuals who will receive deferred action, but in no way do they alter the existing policies that govern the legal consequences of deferred action. For that reason, statements that question where the Administration gets the power to grant millions of work permits and social security cards are quite beside the point. The only real legal issue is where the Administration gets the power to grant *deferred action* in the way that it has. If it has that power, then all the other consequences flow from existing authority. If it doesn’t, then those benefits will not be awarded.

By way of background, deferred action (originally called “non-priority status”) – and similar programs operating under different names – have been integral parts of immigration enforcement for more than 50 years.⁸ Congress, well aware of this administrative practice, has never enacted

⁸ See, e.g., Office of Legal Counsel, U.S. Dept. of Justice, *The Department of Homeland Security’s Authority to Prioritize Removal of Certain Aliens Unlawfully Present in the United States and to Defer Removal of Others* (Nov. 19, 2014) [hereinafter OLC Opinion], at 13-20; Shoba Sivaprasad Wadhia, *Beyond Deportation – The Role of*

legislation to preclude it or even restrict it.

But the legal authority for deferred action does not rest solely, or even primarily, on congressional acquiescence in a well-known administrative practice. In several statutory provisions, Congress has expressly recognized deferred action by name. For example, 8 USC § 1227(d)(2) says that if a person is ordered removed, applies for a temporary stay of removal, and is denied, that denial does not preclude the person applying for deferred action. In addition, 8 USC § 1154(a)(1)(D)(i)(II,IV) specifically endorses deferred action (and work permits) for certain domestic violence victims and their children. Deferred action also qualifies a person for a driver's license under the REAL ID Act of 2005, Pub. L. 109-13, 119 Stat. 231, Div. B, § 202(c)(2)(B)(viii) (May 11, 2005).

In addition to the statute, the formal regulations of the Justice Department (and now the Department of Homeland Security) have also expressly recognized deferred action by name since at least 1982. See 8 C.F.R. § 109.1(b)(7) (1982); 8 CFR § 274a.12(c)(14) (2014). Those agency regulations, adopted via notice-and-comment procedures, have the force of law.

Finally, a long line of court decisions, including at least one Supreme Court decision, explicitly recognize deferred action by name. See, e.g., *Reno v. American-Arab Anti-Discrimination Committee*, 525 U.S. 471, 483-84 (1999); *Mada-Luna v Fitzpatrick*, 813 F.2d 1006 (9th Cir. 1987); *Romeiro de Silva v. Smith*, 773 F.2d 1021, 1024 (9th Cir. 1985); *Pasquini v. Morris*, 700 F.2d 658, 661 (11th Cir. 1983); *Nicholas v. INS*, 590 F.2d 802 (9th Cir. 1979); *David v. INS*, 548 F.2d 219, 223 (8th Cir. 1977); *Soon Bok Yoon v. INS*, 538 F.2d 1211, 1213 (5th Cir. 1976); *Vergel v. INS*, 536 F.2d 755 (8th Cir. 1976).

Writing on behalf of eight Supreme Court Justices, Justice Scalia was emphatic about the broad scope of the executive branch discretion to grant deferred action: “At each stage the Executive has discretion to abandon the endeavor [referring to the removal process], and at the time IIRIRA was enacted the INS had been engaging in a regular practice (which had come to be known as ‘deferred action’) of exercising that discretion for humanitarian reasons or simply for its own convenience.” *Reno v. American-Arab Anti-Discrimination Committee*, 525 U.S. 471, 483-84 (1999). Other courts had expressed the same view: E.g., *Pasquini v. Morris*, 700 F.2d 658, 662 (11th Cir. 1983) (granting or withholding deferred action “is firmly within the discretion of the INS” and therefore can be granted or withheld “as [the relevant official] sees fit, in accord with the abuse of discretion rule when any of the [then] five determining conditions is present”); *Soon Bok Yoon v. INS*, 538 F.2d 1211, 1213 (5th Cir. 1976) (“The decision to grant or withhold nonpriority status [the former name for deferred action] therefore lies within the particular discretion of the INS”).

Prosecutorial Discretion (2015), chap. 4; Shoba Sivaprasad Wadhia, *In Defense of Deferred Action and the DREAM Act*, 91 Texas L. Rev. 59 (2013); Shoba Sivaprasad Wadhia, *The Role of Prosecutorial Discretion in Immigration Law*, 9 Conn. Pub. Interest L.J. 243 (2010); Leon Wildes, *The Nonpriority Program of the Immigration and Naturalization Service Goes Public: The Litigative Use of the Freedom of Information Act*, 14 San Diego L. Rev. 42 (1976).

Deferred action, then, is well-established, explicitly authorized by multiple sources of legal authority, and extremely broad. Is there, nonetheless, a legal argument that the specific exercises of deferred action in DACA and DAPA are unauthorized? I am aware of at least four attempts to advance such an argument:

a. Some have occasionally suggested that Congress’s decision to mention deferred action in a few specific provisions (mainly for domestic violence victims and individuals who had unsuccessfully sought temporary stays of removal orders) indicates that Congress meant to prohibit deferred action in all other circumstances. That theory relies on the statutory interpretation maxim that (translated from Latin) the express mention of one thing excludes all others. But that principle does not apply here. When an administrative practice is as fundamental, as long entrenched, as integral to administrative practice, and as explicitly and frequently recognized as deferred action has been in statutes, regulations, and court decisions, it is inconceivable that Congress would abolish virtually the entire practice by vague inference. Had Congress intended to do something that radical, there would surely have been some mention of the issue in the legislative history, there would have been heated debate, and there would have been some clear language in the statute. There is none of these things.

b. A second claim by critics of these executive actions is that deferred action is legal if it is granted to a small number of people but illegal if granted to a large group. That argument is a non-starter. The number of individuals affected by a given set of deferred action criteria is clearly a relevant *policy* consideration. But none of the *legal* authorities that recognize deferred action – not Congress, not the executive branch, and not the courts – have stated or even remotely implied that deferred action is legal for a small number of people but illegal for a large number. (There are legal limits to the granting of deferred action, and they are discussed below, but there is *no* legal authority for the proposition that deferred action is per se illegal whenever it is extended to a large number of people.)

c. Perhaps the critics’ most frequent argument – and the one on which Judge Hanen in *Texas 2015* principally relied – is that deferred action is legal when granted on an individual, case-by-case basis but illegal when granted to an entire class. For the record, I note that nothing in either the statute or the regulations prohibits immigration officials from granting deferred action, or otherwise exercising its prosecutorial discretion, in favor of a class of individuals. As discussed in section C below, previous Presidents have frequently granted either deferred action or some functionally equivalent discretionary relief (for example “deferred enforced departure,” “extended voluntary departure,” “family fairness”) on a class-wide basis to large numbers of undocumented immigrants. As Professor Shoba Wadhia has pointed out,⁹ the DC Circuit in *Hotel & Restaurant Employees Union v. Attorney General*, 804 F.2d 1256 (DC Cir. 1986), refused to review a decision of the then-INS to grant “extended voluntary departure” (a non-statutory remedy analogous to deferred action) to Salvadorans. Although the challenged decision was a denial of relief rather than a grant of relief, the takeaway from that case applies equally here. The court held: “Where Congress has not seen fit to limit the agency’s discretion

⁹ See Shoba Sivaprasad Wadhia, *The Role of Prosecutorial Discretion in Immigration Law*, 9 Conn. Pub. Interest L.J. 243, 287-88 (2010).

to suspend enforcement of a statute as to particular groups of aliens, we cannot review facially legitimate exercises of that discretion.” *Id.* at 1271-72. The court thus specifically endorsed the authority of the immigration agency to grant non-statutory relief on a group basis.

More important here, even if the law prohibited class-based discretion, both DACA and DAPA expressly require precisely the individualized, case-by-case, discretionary evaluations on which the critics insist – as explained below. Surely, however, that doesn’t mean, and to date none of the critics have identified any legal authority that suggests, that it is illegal for the agency to provide general criteria to guide the evaluation of individual cases.

To the contrary, the courts have consistently recognized the Administration’s broad discretion to implement deferred action by announcing general categorical criteria. The courts were well aware of those categories; often they quoted them in their opinions. Indeed, there is no other way for an agency to guide its officers as to how to exercise that discretion. For example, the Eleventh Circuit in *Pasquini*, above, 700 F.2d at 661, quoted the 1978 INS Operating Instructions’ five criteria for officers to consider: “(1) advanced or tender age; (2) many years presence in the United States; (3) physical or mental condition requiring care or treatment in the United States; (4) family situation in the United States -- affect [sic] of expulsion; (5) criminal, immoral or subversive activities or affiliations.” The court then noted the discretion of the INS district director. *Id.* at 662. The Ninth Circuit in *Nicholas*, above, 590 F.2d at 806-07, likewise quoted the then five general categorical criteria for deferred action. The Supreme Court in *Reno*, above, similarly quoted a treatise that listed the several general categorical criteria the INS was then instructing officers to consider in deferred action cases. 525 U.S. at 483-84, quoting from 6 C. Gordon, S. Mailman, & S. Yale-Loehr, *Immigration Law and Procedure* § 72.03[2][h]. The fact that the agency had laid out general categorical criteria did not prevent the court from recognizing the agency’s use of deferred action.

All of this is consistent with common sense. When an agency sets its enforcement priorities – whether via deferred action or any other vehicle – there are two ways it could proceed. The agency could leave it up to each individual police officer and each individual prosecutor to decide what he or she thinks the agency’s enforcement priorities ought to be. Or, as the Secretary of Homeland Security has done here, the agency can formulate those priorities at the leadership level. The latter approach is far preferable. Enforcement priorities are important policy decisions, and important policy decisions should be made by the leaders, who are politically accountable. In addition, only the leadership can disseminate guidance throughout the agency so that the people on the ground know what they are supposed to do, so that these important priorities will be transparent to the public, and so that there will be some reasonable degree of consistency. Consistency in turn is essential to equal treatment. To the extent avoidable, the decision whether to arrest or detain or prosecute should not depend on which officer happens to encounter the person or which prosecutor’s desk the person’s file happens to land on.

Perhaps most crucial of all, there is nothing inconsistent about adopting general threshold criteria at the front end while still requiring individualized, case-by-case discretion at the back end. On

this issue there has been a great deal of misinformation. As the following discussion will show, both the Prosecutorial Discretion Memo and the DACA/DAPA Memo embody precisely that combination of steps.

The Prosecutorial Discretion Memo lays out three sets of high enforcement priorities but is replete with language that authorizes officers to deviate from the stated priorities in circumstances that either require them to weigh and balance various factors or are defined in such broad terms as to amount to the exercise of discretion. Some language goes further still, explicitly instructing officers to use their “judgment” (often after consultation with a supervisor). See, e.g., section A, priority 1, last paragraph; priority 2, last paragraph; priority 3, last sentence. Conversely, the memo specifically instructs officers that it is not meant to “prohibit” or even “discourage” enforcement actions against individuals who are *not* priorities; such decisions are similarly assigned to ICE field office directors, who are to use their “judgment” to decide whether removal “would serve an important federal interest” – again, language broad enough to make the resulting decisions highly discretionary. If this were not enough, the memo contains a section D, entitled “Exercising Prosecutorial Discretion,” which lists numerous factors that officials “should consider.” It even adds “These factors are not intended to be dispositive nor is this list intended to be exhaustive. Decisions should be based on the totality of the circumstances.”

The DACA/DAPA Memo takes a similar approach. It repeatedly mandates “case-by-case” evaluation, for both DACA and DAPA (as the original 2012 DACA memo did). At least one critic has suggested that that language might mean that the adjudicator’s case-by-case evaluation is limited to determining whether the person meets the threshold criteria – as opposed to additionally deciding whether discretion should be favorably exercised. Other language in the memo, however, removes any doubt. Section B, after laying out certain threshold criteria for DAPA, expressly limits DAPA to cases that “present no other factors that, *in the exercise of discretion*, makes the grant of deferred action inappropriate” [emphasis added]. And on page 5, the next-to-last paragraph of the memo reinforces this point. It explains that “immigration officers will be provided with specific eligibility criteria for deferred action [for both DACA and DAPA], *but the ultimate judgment as to whether an immigrant is granted deferred action will be determined on a case-by-case basis*” [emphasis added]. Meeting the eligibility criteria, in other words, is not enough.

So both memoranda are filled with clear, careful, explicit, repeated commands to officers to make individualized, case-by-case discretionary judgments. How can critics defend their persistent claims that DACA and DAPA lack individualized consideration when the Secretary’s memoranda that tell officers how they are to decide these requests say precisely the opposite?

With the actual memoranda directly contradicting their claims, some critics have effectively resorted to accusing the Administration of perpetrating a scam. Judge Hanen in *Texas 2015* called the discretionary factor a “pretext.” *Id.* at 109 n. 101. Professor Blackman makes a similar accusation. Josh Blackman, *The Constitutionality of DAPA Part II: Faithfully Executing the Law*, 19 Tex. Rev. of L. & Politics (forthcoming 2015), § IV(A,B,C) [hereinafter cited as

Blackman II]. The charge appears to be that in practice no such individual evaluation – and no such discretionary determination – ever takes place. Given the wording of the memoranda, this claim amounts to saying that DHS employees have been systematically disobeying the Secretary’s clear and repeated instructions to exercise discretion in each case. Yet the critics have not offered any credible evidence to support that charge or any other reason to expect such a counter-intuitive result.

They have tried. Judge Hanen, in *Texas 2015* at 11, credited the assertion of USCIS adjudicator and union president Kenneth Palinkas that DHS leadership “has guaranteed that [DACA] applications will be rubber-stamped for approval.” *Texas 2015*, Doc. No. 64, Pl. Ex. 23 at 3 (hereinafter “Palinkas Dec.”). Mr. Palinkas’s sole support for that assertion was that DACA requests are adjudicated by USCIS Service Centers, which do not conduct in-person interviews. The Service Center adjudicators study the documentary record, however, and in addition background checks include submission of fingerprints and consultation of the relevant law enforcement databases. Since USCIS service centers perform the vast majority of all USCIS adjudications, the Palinkas assertion is in effect a wholesale indictment of the bulk of USCIS’s work. That the absence of in-person interviews automatically converts the Service Centers’ decisions into rubberstamp approvals will come as a surprise to the millions of applicants who have received USCIS denials over the years. It would certainly surprise the more than 38,000 DACA requestors who have been denied on the merits. *Texas 2015*, at 10 (not even counting the more than 40,000 rejections at the lockbox stage for errors such as incomplete applications, failure to enclose the application fee, etc.). At any rate the Service Center adjudicators may refer DACA requestors for field office interviews when they believe that the decision will depend on factors that can best be ascertained in that manner. Neufeld Declaration, para. 20 & App. C.

The judge similarly credited Mr. Palinkas’s unsupported, and wildly inaccurate, assertion of “a 99.5% approval rate for all DACA applications.” *Texas 2015* at 109 n.101, citing Palinkas Doc., para. 8. Yet the detailed data that USCIS had long posted on its public website shows an approval rate of only 95% — a number Judge Hanen casually minimized as coming from “other sources.” *Texas 2015* at 109 n.101. The actual denial rate of 5%, in other words, was approximately 10 times the 0.5% denial rate that Mr. Palinkas had invented. See USCIS website, http://www.uscis.gov/sites/default/files/USCIS/Resources/Reports%20and%20Studies/Immigration%20Forms%20Data/All%20Form%20Types/DACA/DACA_fy2014_qtr4.pdf (through Sept. 30, 2014).¹⁰

¹⁰ While some might assume at first blush that even 95% is a high approval rate, it is not high when one considers who actually files requests for DACA. An undocumented individual with some additional misconduct in his or her background is unlikely to proactively approach the government, reveal his or her name, address, undocumented status, and additional negative information, and provide fingerprints – nor is that person likely to send the government \$465 – if he or she is unlikely to receive deferred action. For all these reasons, DACA requestors tend overwhelmingly to have strong cases. A denial rate of 5%, therefore, provides no reason to believe that DACA requests are being rubber-stamped; to the contrary, it shows that thousands of denials occur even among this highly self-selected group. To the contrary, the fact that hundreds of thousands of DACA-eligible individuals have not requested it suggests there are many who fear they would be denied, either for failure to meet the threshold criteria or in the exercise of discretion.

Further, at Judge Hanan's request, the government provided several examples of cases where USCIS had denied DACA on discretionary grounds even though the requestors had met the threshold criteria. See *Texas 2015*, Exh. 44, Declaration of (Associate Director for Service Operations) Donald W. Neufeld, at 510, para. 18 [hereinafter the Neufeld Declaration]. In his sworn declaration, Mr. Neufeld stated that "USCIS has denied DACA even when all the DACA guidelines, including public safety considerations, have been met." *Id.* He furnished specific examples. They included cases where a person had committed or had attempted to commit fraud in *prior* applications or petitions (not in connection with the DACA requests themselves), or where a person met all the threshold criteria but had previously made a false claim of U.S. citizenship and had had prior removals. *Id.* Despite this record evidence, Judge Hanan stated that "No DACA application that has met the criteria has been denied based on an exercise of individualized discretion." *Texas 2015* at 109 n.101. Elsewhere in the opinion, he similarly stated that "the Government could not produce evidence concerning applicants who met the program's criteria but were denied" and on that basis "this Court accepts the States' evidence as correct." *Id.* at 11 n.8. Apart from the fact that the government had produced precisely such evidence – and at the judge's request – the states in fact did not submit *any* "evidence" that there had been no discretionary denials. They merely asserted, without any factual support, that the applications were being "rubberstamped."

Moreover, officers must exercise a great deal of discretion just to apply some of the broadly-worded threshold criteria themselves. Whether someone endangers the public safety, for example, is more than simply a matter of finding facts. How probable the danger has to be and how severe the potential harm has to be before someone will be considered a threat to public safety are matters of opinion, not fact. The same is true when the question is whether the person is a threat to national security. The fact that the discretion is exercised in applying the threshold criteria rather than separately after the threshold criteria have been met does not make the determination any less discretionary. See, e.g., *Gonzalez-Oropeza v. U.S. Attorney General*, 321 F.3d 1331, 1332-33 (11th Cir. 2003) (determinations of "exceptional and extremely unusual hardship," which is a statutory prerequisite for cancellation of removal, are discretionary and therefore unreviewable); *Romero-Torrez v. Ashcroft*, 327 F.3d 887, 889-92 (9th Cir. 2003) (same). Nor is there any apparent legal or policy reason to value either exercise of discretion more than the other. Either way, leadership is providing general guidance at the front end and officers, after considering the facts of the individual case, are exercising discretion at the back end.

As with most of its adjudications, USCIS officers use a standardized form when issuing denials. The DACA denial template has gone through several iterations. The earliest versions contained boxes that the adjudicator would check to indicate the reason for the denial. The listed reasons included the various threshold criteria for DACA and, as a ground for denial "*You do not warrant a favorable exercise of prosecutorial discretion because of other concerns*" [emphasis added]. See http://legalactioncenter.org/sites/default/files/2013-HQFO-00305_Document.pdf, page 442.¹¹ During my tenure as Chief Counsel of USCIS from October 2011 to October 2013, I

¹¹ Professor Blackman reproduces one of the older (undated) versions. See Blackman II, at 29. One of the checkboxes on that version covered certain criminal convictions and then added "or you do not warrant a favorable

personally recall seeing the DACA denial template and noticing the explicit inclusion of an option for discretionary denials. I do not believe that all the subsequent versions of the checkbox style template have been publicly released, but the only other versions that I have found similarly included this option. See <http://legalactioncenter.org/sites/default/files/DACA%20Standard%20Operating%20Procedures.pdf>, App. F (showing versions issued on March 13, 2013; May 2, 2013; and one undated version). The inclusion of that option reminds the adjudicators of the Secretary's instruction that DACA requests may be denied in the exercise of discretion even when all the threshold criteria have been satisfied. At any rate, it appears that USCIS has now switched from a checkbox format to a narrative format, at least if the final denial templates use the same format as the Notices of Intent to Deny (NOIDs) that are reproduced in the Neufeld Declaration at 554-55.

Judge Hanen also commented that (conversely) "there is no option for granting DAPA to an individual who does not meet each criterion." *Texas 2015* at 109. That statement is literally true but highly misleading. With or without DACA and DAPA, anyone may request deferred action for any of the humanitarian or other reasons for which deferred action had traditionally been granted; the fact that the DACA and DAPA criteria do not apply is not disqualifying.

Finally, even if the record had demonstrated that USCIS officers have been systematically disobeying Secretary Napolitano's explicit 2012 instructions to exercise discretion when deciding DACA requests – and as the above discussion shows, it does not – there is no basis for enjoining the future operation of DAPA. To do so requires further speculation that, in the future, officers will systematically disobey the instructions that Secretary Johnson issued in his November 20, 2015 memoranda. Once DAPA becomes operational, if evidence were to emerge that no discretion is actually being exercised, then there might well be cause for complaint. But when the Secretary's memoranda expressly require individualized case-by-case discretion, shutting down an entire program before it starts, based solely on speculation that officers might fail to exercise the discretion they've been ordered to exercise, is not defensible.

At any rate, an earlier decision by the federal district court for the District of Columbia specifically rejected the claim that USCIS adjudicators were not actually evaluating the facts of each individual case. *Arpaio v. Obama*, Civ. Action No. 14-01966 (BHH) (Dec. 23, 2014), at 31-32.¹²

d. One last attack on the specific use of deferred action in DACA and DAPA is the claim that, if these policies are legal, then there are no limits to executive power. A future President, these critics say, could refuse to enforce the civil rights laws, or the labor laws, or the environmental laws, or the consumer safety laws.

But this line of argument is similarly misconceived, for there are several substantial, concrete,

exercise of prosecutorial discretion because of national security or public safety concerns." That language clearly conveyed to the officers that they were to exercise discretion when making public safety and national security determinations, but admittedly it didn't confirm that discretionary denials could also be based on other grounds.

¹² The court also held the plaintiff lacked standing to bring the suit.

and realistic limits to executive discretion. I would suggest four:

First, every statutory structure is different. In each case, the initial question should be what the relevant statute says. In particular, how much discretion does it give the executive branch to formulate enforcement priorities?

In the present context, as noted earlier, Congress has given the Administration exceptionally wide discretion. 6 USC § 202(5) gives the Secretary of Homeland Security not only the power, but the “responsibility” for “establishing national immigration enforcement policies and priorities.” Under 8 USC § 1103(a)(1), the Secretary is “charged with the administration and enforcement of this chapter and all other laws relating to the immigration and naturalization of aliens,” except when those powers and duties are assigned to other specified executive officers. 8 USC § 1103(a)(3) requires the Secretary to, among other things, “issue such instructions; and perform such other acts as he deems necessary for carrying out his authority under the provisions of this Act.” Those general powers are subject to any specific constraints otherwise imposed, but as discussed earlier, the executive actions at issue here do not violate either specific provisions or the spirit of either the INA or any other statutes.

Second, resource constraints matter. If the executive were to refuse to substantially spend the resources Congress has appropriated for enforcement, then a serious legal issue would be presented, as President Nixon discovered. But DACA and DAPA do not even approach the sort of hypothetical non-enforcement policies that this argument conjures up. From its first days in office, the Administration has spent every penny Congress has appropriated for immigration enforcement. It has removed more than 2 million immigrants. More important still is this reality: Even after DACA and DAPA are fully operational, there will still remain in this country at least – and this is a conservative estimate – 6-7 million undocumented immigrants to whom these policies don’t apply. And as noted earlier the President still will have only enough resources to go after fewer than 400,000 of them per year – i.e., less than 7% of even the non-DACA/DAPA population. Again, the resources are unlikely to permit even 400,000 removals of undocumented immigrants, because those same resources must also be used for border security and, further, because non-Mexican nationals comprise an increasingly large percentage of unauthorized entries and require significantly more resources per removal. Therefore, nothing in these new policies will prevent the President from continuing to enforce the immigration laws to the full extent that the resources Congress has given him will allow. As long as he does so, it is impossible to claim that his actions are tantamount to eliminating all limits.

Third, the particular priorities can’t be arbitrary or capricious, see 5 USC § 706(2)(a), or otherwise violate equal protection or other individual constitutional rights. Both the Prosecutorial Discretion Memo and the DACA/DAPA Memo prioritize national security, public safety (through the removal of criminal offenders by severity of crime), and border security. But with a fixed pot of money, prioritizing some areas means de-prioritizing other areas. The President has de-prioritized breaking up families and upending the lives of those who have lived in the U.S. peacefully and productively for many years. Most Americans would likely agree those are sensible priorities. Few could deny they are rational.

Fourth, the particular priorities cannot conflict with any that the legislature has mandated. Here, Congress has specifically mandated that the Administration prioritize three things – national security, public safety (through the removal of criminal offenders by severity of crime), and border security. Again, those are exactly the 3 priorities that both the Prosecutorial Discretion Memo and the DACA/DAPA Memo expressly incorporate. The Administration’s priorities not only don’t conflict with those of Congress; they expressly accommodate them.

Despite claims to the contrary, therefore, serious tangible, practical limits do exist. As this discussion has shown, the recent executive actions fully respect all four of those limits.

3. *Work Permits*

In continuing to grant work permits to deferred action recipients who can demonstrate economic necessity, USCIS is exercising a discretionary power expressly granted by Congress, incorporated into the formal regulations, and in active use for more than three decades. Importantly, the recent executive actions do not change the agency’s policies on work authorization in any way.

In 8 U.S.C. § 1103(a)(1), Congress charged the Secretary of Homeland Security with “the administration and enforcement” of all the immigration laws (except for any laws that Congress has assigned to other executive officers or departments). Section 1103(a)(3) then instructs the Secretary to “establish such regulations; ... issue such instructions; and perform such other acts as he deems necessary for carrying out his authority under the provisions of this Act.”

From the earliest days of the Reagan Administration, the former INS (where the analogous immigration responsibilities then resided) understood this authority to include the power to decide which noncitizens should receive permission to work. See OLC Opinion, note 7 above, at 21 n.11. Exercising this power, the INS regulations specifically authorized work permits for recipients of deferred action. 8 C.F.R. § 109.1(b)(7) (1982).

When Congress later enacted the Immigration Reform and Control Act, Pub. L. 99-603, 100 Stat. 3359 (Nov. 5, 1986) [IRCA], it did so against the backdrop of this existing regulation and made this authority explicit. In 8 U.S.C. § 1324A(h)(3), Congress defined the term “unauthorized alien” (meaning an alien who is not authorized to work) as excluding lawful permanent residents and aliens who are “authorized to be so employed by this Act *or by the Attorney General*” [now the Secretary of Homeland Security] [emphasis added]. Congress thus expressly authorized the Attorney General (now the Secretary of Homeland Security) to grant work permits, and specifically to people whom the statute itself does not already authorize to work. And at least since 1982, deferred action recipients have continued to be among the classes of aliens whom the immigration agency (now USCIS) specifically makes eligible for work permits, provided they demonstrate the economic necessity to work. The relevant provision currently appears in 8 C.F.R. § 274a.12(c)(14) (2014). See also *Perales v. Casillas*, 903 F.2d 1043, 1048-50 (5th Cir. 1990) (treating the executive power to decide which noncitizens may work as “unfettered” and

therefore not only discretionary, but so “committed to agency discretion by law” that it is not even subject to judicial review). Nor did Congress put any numerical limit on the number of work permits USCIS may issue – and Congress knows how to impose numerical caps when it wants to. See, e.g., 8 USC §§ 1151-1153 (immigrants), 1184(g) (temporary workers), 1184(o,p) (certain victims of human trafficking, domestic violence, and other crimes).

Despite this broad and long-accepted authority, some critics of DACA and DAPA have disputed this power. In effect, they argue that the statutory phrase “or by the Attorney General” should be interpreted to mean “or by the Attorney General in cases where this Act already authorizes employment.” See, e.g., Jan Ting, *President Obama’s “Deferred Action” Program for Illegal Aliens is Plainly Unconstitutional* (Dec. 2014), at 18-19, citing John C. Eastman, *President Obama’s “Flexible” View of the Law: The DREAM Act as Case Study*, Roll Call (Aug. 28, 2014). They maintain that the only classes of noncitizens for whom Congress meant to allow the Attorney General to authorize employment were those whom Congress had already so authorized. That, of course, would render the phrase “or by the Attorney General” superfluous, since the individuals whom Professors Ting and Eastman concede this phrase covers would already be covered by the phrase “by this Act.” It would also render superfluous all the statutory provisions that preclude work permits for specific classes of noncitizens. For example, Congress has prohibited the employment of business visitors, 8 USC § 1101(a)(15)(B); visitors for pleasure, *id.*; asylum applicants for the first 180 days, 8 USC § 1158(d)(2); noncitizens in removal proceedings (unless already authorized to work), 8 USC 1226(a)(3); and (with exceptions) noncitizens who are awaiting execution of final removal orders, 8 USC § 1231(a)(7). All those provisions would be surplusage if, as the critics argue, the only people who could receive work permits were those already affirmatively so authorized by statute.

Professors Eastman and Ting attempt to support this interpretation nonetheless. They note that, before the 1986 enactment of IRCA, the Immigration and Nationality Act already (in Professor Ting’s words) “separately authorizes or requires” the Attorney General to grant work permits. They argue that these latter provisions are the ones that would be superfluous if the Attorney General possessed the broader discretion to grant work permits to any class of aliens. But there are two flaws in this argument. First, the argument ignores the *Perales* decision cited above (finding no statutory limits to the work permit authority). Second, the specific provisions cited by Professor Ting are not, as he describes them, ones that “authorize or require” work permits [my emphasis]. The cited provisions are all mandatory.¹³ Their superfluosity argument thus falls apart. Congress has *required* DHS to grant work permits to some, *forbidden* DHS to grant work permits to certain others, and *permitted* DHS to grant work permits to others in its discretion. There is nothing superfluous about that.

The only other argument Professor Ting offers on this score is that post-IRCA legislation added some new classes of noncitizens for whom issuance of work permits was indeed discretionary. Ting, above, at 26 n.80. But that is a thin reed on which to rely. All the cited post-IRCA provisions (relating to domestic violence victims and to nationals of Cuba, Haiti, and Nicaragua)

¹³ They include 8 U.S.C. § 1101(i)(2) (requiring work permits for T-visa recipients) and refugees, asylees, and recipients of temporary protected status (all of whom similarly *must* be granted work permits).

singled out these particular groups for strong humanitarian reasons. The provisions authorizing the grant of work permits to those groups were obviously intended to be ameliorative. If Congress, through a simple charitable act of allowing work permits for those few groups, had thereby intended a change as momentous as the one Professors Ting and Eastman are hypothesizing – i.e. simultaneously prohibiting the grant of work permits to all those who had been eligible since the early 1980s unless specifically singled out elsewhere in the statute – the legislative history would surely have revealed at least a debate on the issue. They assign unrealistic weight to the fact that parts of a humanitarian provision contained language that was unnecessary because of an otherwise more general, unrelated provision of a long statute.

B. Nothing in the recent executive actions conflicts with either the letter or the spirit of the Immigration and Nationality Act or any other federal statute.

Critics of DACA and DAPA continually assert that the President’s actions violate, or disregard, or suspend, or ignore the immigration laws. Rarely, however, do they ever attempt to identify any specific provisions of the law that they claim he has violated.

There is one exception. Critics will occasionally cite section 235 of the Immigration and Nationality Act, codified as 8 U.S.C. § 1225. Their argument is as follows: Section 1225(a)(1) defines an “applicant for admission” as “an alien present in the United States who has not been admitted or who arrives in the United States ...” In turn, section 1225(a)(3) says that “[a]ll aliens ... who are applicants for admission ... *shall* be inspected by immigration officers” [emphasis added]. Finally, section 1225(b)(2)(A) provides that “in the case of an applicant for admission, if the examining immigration officer determines that an alien seeking admission is not clearly and beyond a doubt entitled to be admitted, the alien *shall* be detained for a [removal] proceeding” [emphasis added].

The argument rests on the use of the highlighted word “shall.” The critics interpret this combination of provisions to mean that an immigration officer violates the law unless he or she detains, and initiates removal proceedings against, literally every noncitizen who is believed to be unlawfully present in the United States – regardless of the priorities set by Departmental leadership for deploying its limited enforcement resources.

Two federal judges in Texas have credited that argument. While holding that the court had no jurisdiction to consider an action brought by ICE agents challenging DACA, Judge O’Connor in *Crane v. Napolitano*, Civ. Action No. 3:12-cv-03247-O (N.D. Tex.) (Apr. 23, 2013 and July 31, 2013), suggested in dictum that section 1225 does indeed literally mandate removal proceedings against every noncitizen whom immigration officers believe is not “clearly and beyond a doubt entitled to be admitted.” Judge Hanen in *Texas 2015*, at 88-90, did the same. Under that interpretation, there is no room for any exercise of prosecutorial discretion.

That line of argument, however, has been thoroughly discredited. A superb law review article by Professor David Martin—former General Counsel of the INS and Principal Deputy General Counsel of DHS—identifies its many fatal flaws. David A. Martin, *A Defense of Immigration-*

Enforcement Discretion: The Legal and Policy Flaws in Kris Kobach's Latest Crusade, 122 Yale L.J. Online 167 (2012), <http://yalelawjournal.org/forum/a-defense-of-immigration-enforcement-discretion-the-legal-and-policy-flaws-in-kris-kobachs-latest-crusade>. As Professor Martin points out, the argument first of all is immediately inapplicable to the approximately 40% of the undocumented population who were legally admitted on temporary visas but overstayed. Having already been admitted, they are not “applicants for admission” as expressly defined by section 1225(a)(1). Therefore they do not fall within even the literal language of subsections (a)(3) and (b)(2)(A) on which the critics’ argument depends.

But even as to the remaining undocumented immigrants – i.e., those who entered without inspection and whom the statute does classify as applicants for admission – the argument collapses for several reasons. First, the word “shall” is routinely used in the law enforcement context. Interpreting the word “shall” in an analogous subsection of section 1225, the Board of Immigration Appeals explained in *Matter of E-R-M- & L-R-M-*, 25 I. & N. Dec. 520 (BIA 2011), that “[i]t is common for the term ‘shall’ to mean ‘may’ when it relates to decisions made by the Executive Branch of the Government on whether to charge an individual and on what charge or charges to bring.” *Id.* at 522, citing a long line of court cases that interpret “shall,” in the enforcement context, as subject to prosecutorial discretion. See especially *Town of Castle Rock v. Gonzales*, 545 U.S. 748, 760-61 (2005) (declining to interpret “shall” literally in the law enforcement context). That result is a matter of common sense. If it were otherwise, then practically every law enforcement agency and every law enforcement officer in the country would be violating the law every day by failing to do the impossible, because almost no agency has the resources to arrest and prosecute every possible offender.

Moreover, that interpretation would be hard to square with the many statutory provisions that expressly authorize officers to use their discretion in deciding whom to refer for removal proceedings. These include not only the deferred action provisions discussed earlier, but also 8 U.S.C. §§ 1182(d)(5)(A) (parole), 1225(a)(4) (withdrawal of application for admission), and 1229c(a)(1) (voluntary departure “in lieu of” removal proceedings). Together, those provisions provide a statutory structure that is incompatible with the notion of mandatory removal proceedings for everyone suspected of being unlawfully present – even if, contrary to reality, there were enough resources to do so.

Finally, even the district court in *Crane* acknowledged that, although in its view the officer was required to issue the Notice to Appear, the officer could then unilaterally cancel the Notice to Appear before the immigration judge acquires jurisdiction, or DHS could move to dismiss the case thereafter. *Crane*, Apr. 23, 2013 Order, above, at 24, citing 8 CFR § 239.2(a,c). The court did not attempt to explain why Congress would require such a wasteful and irrational procedure – i.e., why it would require the immigration officer to detain the person, issue a Notice to Appear, and then cancel the Notice, rather than simply not file the charge in the first place.

Unable to convincingly identify any specific statutory provision with which DACA and DAPA conflict, the critics have often made vague suggestions that these policies violate the spirit, or the overall design, of the immigration laws. Again, given the long history of both prosecutorial

discretion generally and deferred action in particular, given the numerous applications of deferred action or similar large-scale relief policies announced by previous Administrations (discussed below), given that until now these types of actions have rarely been questioned, and given the fact that Congress has been well aware of the practice and has never legislated to prevent it, this argument is hard to understand.

Still, some have tried to support the “spirit” argument by citing some of the statutory provisions that allow the government, in its discretion, to grant *lawful permanent resident* status to people who meet certain specific conditions. Their argument is that this shows Congress intended not to allow benefits for those who don’t meet those conditions. But that argument is a nonsequitur. The fact that Congress is willing to give lawful permanent residence – a green card – to only *some* people doesn’t tell us anything about whether the Administration, in setting enforcement priorities, may grant *temporary* reprieves from removal, and *temporary* permission to work, to others. Deferred action, in fact, does not grant anyone an immigration status of any kind, let alone a permanent status; it is merely temporary relief from removal, revocable at any time for any reason. See, e.g., *Arizona Dream Act Coalition v. Brewer*, 757 F.3d 1053, 1058 (9th Cir. 2014) (“Like recipients of other forms of deferred action, DACA recipients enjoy no formal immigration status.”) Judge Hanen’s repeated objections to DACA and DAPA granting a “status” are, therefore, misplaced. See Kalhan, above, §§ I-IV (quoting and refuting Judge Hanen’s strong reliance on the notion that DACA and DAPA confer an immigration “status”).

Along similar lines, some critics have argued that DACA and DAPA are inconsistent with Congress’s failure to pass the DREAM Act and its failure to enact comprehensive immigration reform. See, e.g., Josh Blackman, *The Constitutionality of DAPA Part I: Congressional Acquiescence to Deferred Action*, 103 Georgetown L.J. Online (forthcoming 2015), at 19-21 [hereinafter Blackman I]. Congressional inaction is cast as an indication that Congress objects to broad relief for undocumented immigrants. First, congressional inaction tells us nothing about Congress’s intentions. If it did, then the failed attempt of the 113th Congress to block DACA and DAPA would be at least as indicative of Congress’s intentions as Congress’s failure to enact the DREAM Act or comprehensive immigration reform. Second, again, a congressional decision not to provide a path to *lawful permanent residence* tells us even less about its views on temporary reprieves from removal and temporary permission to work.

Another form of “overall spirit” argument appears in Professor Ting’s article, cited above. He maintains that the recent executive actions (unlike other exercises of prosecutorial discretion) do more than “refrain from detaining and expelling millions of illegal aliens.” Ting, above, at 5. Quoting the OLC opinion, he says they “openly tolerate an undocumented alien’s continued presence in the United States for a fixed period.” *Id.* Professor Ting does not acknowledge how sweeping that argument would be if it led to the conclusion he wants to reach. By his reasoning, deferred action could *never* be permissible (unless, presumably, the person already has a valid immigration status and therefore doesn’t need deferred action). *Any* time deferred action is granted to a person who is not already in lawful status, the person’s continued presence is being “openly tolerated” for some period. That is the tradeoff that the policy benefits of deferred action present and that the long and previously unquestioned administrative practice of deferred

action has reflected. At any rate, Professor Ting's observation – while a relevant, albeit unconvincing policy consideration – does not raise any identifiable legal barriers.

Professor Blackman has argued that the OLC opinion went off course by arguing that DAPA furthers the generic congressional concern with family unity. Blackman I, § III. He argues – and to this extent, I agree – that Congress's desire to promote family unity was a qualified one. Balancing family unity against competing goals, Congress credited only certain family relationships. In particular, it was unwilling to grant lawful permanent resident status to the parents of under-age-21 U.S. citizen children. See 8 USC § 1151(b)(2)(A)(i).

But even if one attaches only small weight to OLC's argument that DAPA *affirmatively* furthers Congress' family unity objectives, deferred action is not *limited* to promoting family unity. Deferred action has been awarded for a wide range of humanitarian objectives, *including* family unity. The Immigration and Nationality Act itself contains a myriad of provisions that promote humanitarian concerns other than family unity. They provide relief based on long-term residence, e.g. 8 USC §§ 1182(h)(1)(A) (discretionary relief even for noncitizens who have committed crimes, if the crimes occurred more than 15 years earlier), 1259 (registry, for those who have lived here since 1972); those who fear persecution on specified grounds, 8 USC §§ 1157 (overseas refugees), 1158 (asylum); victims of human trafficking or other crimes, 8 USC § 1101(a)(T, U); and domestic violence victims (many provisions).

Professor Blackman further argues that previous “similar” grants of deferred action have all been instances in which the deferred action was “a temporary bridge to permanent residence or lawful presence.” Blackman I, at 6. For many DAPA recipients, of course, the same will be true, depending on how they entered, the age of their sons or daughters, and other variables. Moreover, other executive programs that were the functional equivalents of deferred action – but with different labels, like “family fairness,” “extended voluntary departure,” or “deferred enforced departure” – had nothing to do with temporary bridges to lawful status. They were granted for a range of humanitarian reasons, including dangerous country conditions and the recent deaths of their spouses. See section I.C.2 below. Indeed, in many cases it was Congress that took action years after the grant of temporary protection to offer an opportunity for permanent legal status. Extended Voluntary Departure recipients from Poland, Afghanistan, Ethiopia, and Uganda were allowed to adjust their status to permanent residence through the Foreign Relations Authorization Act, Fiscal Years 1988 and 1989, Pub. L. No. 100-204, 101 Stat. 1331, 1400-01 (1987). And after President George H.W. Bush issued an Executive Order deferring the deportation of Chinese nationals and granting them work authorization following the Tiananmen Square massacre, Congress enacted legislation to permit those people to adjust their status. Chinese Student Protection Act of 1992, Pub. L. No. 102-404, 106 Stat. 1969 (1992). Finally, after President Bush granted Deferred Enforced Departure to 2,000 Persian Gulf evacuees of various nationalities who were airlifted from Kuwait during the Persian Gulf War, Congress enacted a private immigration law to permit those who had not already adjusted their status through some other means to adjust their status. Priv. L. No. 106-8, 114 Stat. 3099 (2000). In none of these cases was executive action provided as “a temporary bridge to permanent residence or lawful presence.” Rather, what all these programs have had in common is that they

were non-statutory, purely executive actions granting temporary reprieves from removal and temporary work permits to large numbers of (in almost all cases undocumented) immigrants – just like DAPA.

Family unity and the imminence of some other lawful status are certainly legitimate *policy* reasons to grant deferred action or similar relief. But the reason executive discretion is necessary is that no humans – not members of Congress, not Presidents, not agency leaders – can anticipate every conceivable humanitarian need. The executive’s discretion to base discretionary relief on new combinations of equities is essential; it cannot, and never has been, limited to any specific equities – either when exercised ad hoc or exercised for a large number of individuals.

Finally (on the subject of the overall structure of the immigration laws), there is indeed a recurring theme in Congress’s various enactments. Far from supporting the critics of the President’s recent executive actions, however, it affirmatively does the opposite. As noted earlier, both the Prosecutorial Discretion Memo and the DACA/DAPA Memo expressly reflect the Administration’s prioritization of national security, public safety, and border security. These are precisely the priorities that Congress has directed the Administration to pursue. See, e.g., note 5 above (citing annual appropriations Acts prioritizing removal of criminal offenders); 8 U.S.C. §§ 1225(b)(1), 1225(c), 1226(c)(1)(D) (prioritizing national security and border security).

C. Other miscellaneous objections similarly fail.

1. Some of the critics’ legal arguments have been directed at straw persons. Some, for example, have seized on the President’s frequent statements that he acted because Congress had failed to act. They have argued that Presidential action doesn’t become legal simply because Congress has not acted. Blackman II, at 43-45.

But no one claims otherwise. When the President explains that he is acting because Congress has not, he isn’t asserting congressional inaction as his *legal* authority for acting. The legal authority comes from the multiple independent sources described in subsections I.A and I.B above. The President’s references to congressional inaction are simply to make the point that he would have had no policy reason to exercise his legal authority in this way if Congress had fixed the problem legislatively as he has encouraged it to do.

2. Another argument has been that the President’s actions do not become legal simply because previous Presidents have adopted similar policies. (The critics have sought to distinguish the programs of previous Presidents in any event, as discussed below.) While those previous Presidential actions lend *additional* credence to the President’s legal authority, the legal authority, again, is independently provided by the many sources of law already described in sections I.A and I.B above. And apart from their supplementary legal value, the analogous actions of his predecessors negate the oft-repeated, but unsupported claim that his actions are so extreme as to be outside the range of acceptable political norms. Undoubtedly, the Administration has also been eager to contrast the congressional and public acceptance of his predecessors’ actions with the hyperbolic reactions of many to DACA and DAPA. But the legal

authority, again, rests independently on the many sources already described.

Because the critics have also attempted to distinguish the actions of previous Presidents, a few observations about those comparisons might be helpful. In the past several decades, almost every President has used his executive powers to grant temporary reprieves from removal, and temporary permission to work, to large, definable classes of undocumented immigrants — for humanitarian, foreign policy, or other legitimate reasons. See, e.g., *Arpaio v. Obama*, above, at 6 (summarizing some of the recent Presidents’ actions); Bridge Project, *Executive Actions Speak Louder than Words*, <http://www.bridgeproject.com/wp/assets/Executive-Action-8.8.14.pdf>; American Immigration Council, *Executive Grants of Temporary Immigration Relief, 1956-Present* (Oct. 2014), http://www.immigrationpolicy.org/sites/default/files/docs/executive_grants_of_temporary_immigration_relief_1956-present_final_5.pdf.

Despite the obvious parallels, critics of President Obama’s recent executive actions have sought to distinguish his predecessors’ programs. Professor Ting, for example, observes that Congress eventually passed legislation embracing, rejecting, or limiting some of those policies. Ting, above, at 9. That, of course, tells us nothing about either their legality or their compliance with political norms at the time the policies were adopted. Ting argues in the paragraph on pages 9-10 that those policies are further distinguishable because they were based on foreign affairs considerations, an area in which the President enjoys special powers. And indeed some of the prior Presidents’ actions were based on foreign affairs. But not all were. The Reagan and Bush family fairness programs, which I turn to now, were not based on foreign affairs at all. They were based on family unification, just like DACA and DAPA.

Congress in 1986 had granted legalization to certain undocumented immigrants but not to their spouses and children. IRCA, above, title II. President Reagan immediately granted relief from deportation to the children (provided both parents or a single parent were legalization beneficiaries), and President Bush Senior later extended those benefits to the spouses and granted them work permits as well. These policies were called the “Family Fairness” program. The precise sequence of legislative, executive, and media developments is summarized in Immigration Policy Center, *Reagan-Bush Family Fairness: A Chronological History* (Dec. 9, 2014), <http://www.immigrationpolicy.org/just-facts/reagan-bush-family-fairness-chronological-history> [IPC Chronology].

Professor Ting argues these programs are meaningfully different from DACA and DAPA. He says that “Presidents Reagan and Bush regarded these individuals as victims of an oversight in the drafting of IRCA and worked with Congress to fix it.” *Id.* at 10. Ting offers no support for that claim, and the record conclusively shows it to be false. Congress, in passing IRCA, made a conscious decision *not* to cover the family members of the legalization beneficiaries; Presidents Reagan and Bush provided executive relief nonetheless. Among the hard evidence is the Senate Judiciary Committee report on the bill that became IRCA. It specifically says: “It is the intent of the Committee that the families of legalized aliens will obtain no special petitioning right by virtue of the legalization.” Interpreter Releases (Oct. 26, 1987), at 1200, 1201, reproducing 1987

INS memo that cites S. Rep. No. 99-131 (99th Cong., 1st Sess. 343 (1985)). See http://www.prwatch.org/files/ins_family_fairness_memo_oct_21_1987.pdf. A Chicago Tribune article adds: “The law said nothing about legalizing children or spouses who came after the start of 1982. *Although Congress considered including them, conservative groups who opposed letting more immigrants into the country derailed the idea.* Moreover, Congress mistakenly assumed that the legalized immigrants would patiently petition the government to let their relatives into the United States” [emphasis added]. Chicago Tribune (Aug. 24, 1990), http://articles.chicagotribune.com/1990-08-24/news/9003110433_1_illegal-immigrants-immigrant-families-deport. The fear was that including the family members could jeopardize passage in the House, where the vote was expected to be extremely close (and in fact was -- the legalization program ended up passing the House by only seven votes). IPC Chronology, above. And on October 7, 1987, the Senate defeated an amendment that would have put the spouses and children on a path to legalization. Two weeks later, the Reagan Administration announced its program for the spouses even as the INS was acknowledging the “clear” intent of Congress to exclude the family members from the IRCA legalization program. *Id.* Thus, even Professor Ting’s representation that Presidents Reagan and Bush *thought* Congress’s omission of the family members was an oversight in the drafting is not true.

Controversy has also emerged over the expected scale of the Bush Family Fairness program. The Bush program was announced on February 2, 1990. At the time, the predictions as to the number of eligible family members varied widely. In the previous year, the INS Statistical Yearbook said the agency had received 3.1 million applications for IRCA legalization and estimated that approximately 42% of those individuals (that would be about 1.3 million) were married. It reaffirmed that estimate one year later. (On the one hand, the Yearbook did not comment on how many of the spouses already qualified independently for IRCA; on the other hand, it did not have any estimates as to the number of children who would be eligible for Family Fairness.) Two newspapers quoted INS officials as estimating the number of beneficiaries at “more than 100,000 people,” though that estimate appeared to be referring to the predicted number of applicants (expected to be much lower than the number of eligibles because many eligibles were expected not to apply). Another INS spokesperson said it “may run to a million.” A few days later, an INS “Draft Processing Plan” estimated that “greater than one million” would apply. On the same day an INS internal Decision Memorandum to the Commissioner said the program “provides voluntary departure and employment authorization to potentially millions of individuals.” About two weeks after that, INS Commissioner Gene McNary, testifying before the House Judiciary Committee, stated that Family Fairness would cover approximately 1.5 million already present in the United States and appeared to imply that yet another 1.5 million people outside the United States would also become eligible (though Mr. McNary, when contacted in late 2014, suggested he might have been misunderstood). As it turns out, far fewer than those numbers actually applied, largely because the Immigration Act of 1990 opened up alternative avenues for most of these individuals. See IPC Chronology.

Based on the congressional testimony of the then-INS Commissioner and the other data suggesting similar numbers of eligibles, the Obama Administration and numerous advocates have quoted the 1.5 million figure. They have pointed out that, like DACA and DAPA today, it

amounted to roughly 40% of the then-existing undocumented population. The critics (including a controversial “fact-check” by Washington Post blogger Glen Kessler, since corrected for serious errors at least twice) have seized on the fact that the actual number of Family Fairness applicants turned out to be much smaller than the Commissioner’s predictions. But the critics (including the “fact-checker”) miss the point, in several respects. First, the key point is not how many actually applied, or even how many were actually eligible (as to which the 1.5 million figure was probably reasonably accurate). Rather, the point was that at the time of President Bush’s announcement his Administration was *predicting* (notwithstanding INS Commissioner McNary’s protest, 24 years later, that he was misunderstood) that 1.5 million would be eligible and still saw no legal barrier to going forward. Nor was there an outcry from either Congress or the general public.

Perhaps most important of all, while the parallels to Family Fairness make that program a natural point of comparison, one must remember that, even if it were distinguishable, it is still just one of the many examples of executive actions granting temporary reprieves from removal, and temporary permission to work, to large categories of undocumented immigrants. In addition, even the totality of the examples is not being cited as the sole, or even primary, legal authority for DACA and DAPA. As noted earlier, they rest on multiple other sound legal grounds. The examples are offered mainly to show that DACA and DAPA have not exceeded acceptable political norms and to stress the need to judge President Obama’s policies by the same standards that have been applied to previous Presidents.

3. Some critics have argued that DACA and DAPA, unlike mere decisions not to prosecute, cannot be justified on the basis of resource limits. They claim that these executive actions do not conserve resources, at least not for those individuals whom the agency has not yet encountered. To the contrary, they say, these policies drain the Department’s law enforcement resources. As to the latter, they point to the money USCIS has had to spend to hire additional adjudicators and lease the necessary physical space. See, e.g., *Blackman II*, at 34-37. The plaintiffs in *Texas 2015* made a similar claim, *id.* at 16; to his credit, Judge Hanen acknowledged that this was not a matter for the court.

The argument founders for several reasons. First, contrary to the critics’ assumptions, DACA and DAPA *do* help conserve enforcement resources. By identifying and investigating millions of undocumented immigrants, USCIS can sift out the low-priority candidates so that ICE and CBP can more efficiently direct their resources to the high-priority targets. In addition, the DACA/DAPA process enables USCIS to receive and compile massive amounts of data on millions of undocumented immigrants; these data will be invaluable to ICE and CBP in the event DACA/DAPA recipients later commit acts that make them high-priority removal targets.

The claim that these programs affirmatively drain enforcement resources fundamentally misconceives both the separate missions and the separate funding structures of the various DHS immigration agencies. For one thing, USCIS is an adjudications agency, not a law enforcement agency like ICE and CBP. Nothing it does reduces ICE’s or CBP’s enforcement resources. More important, the administrative costs entailed by DACA and DAPA are funded by the

requestors themselves, not by congressional appropriations. Neufeld Declaration, paras. 5, 26; see also 8 USC § 1356(m). It is true that the personnel and physical facilities have to be in place before the offsetting revenue from the DACA requests actually arrives. But that is merely a *cash flow* consideration, not a net expenditure.

Perhaps most important of all, while DACA and DAPA do indeed help to conserve scarce immigration enforcement resources, that is not the only objective they accomplish. The other policy benefits are discussed on page 29 below.

4. Finally, the President's opponents like to use the President's own words to try to show that the President himself believes he is acting illegally. They like to cite some spontaneous answers the President has given to questions from the public. The vast majority of the answers they cite are perfectly consistent with DACA and DAPA. Some advocates have asked the President to suspend all deportations, and the President has indeed said he cannot legally do that. He has also said he cannot rewrite the law and that in our constitutional democracy he must follow the law that Congress enacts. All those statements are true. DACA and DAPA don't violate any of those principles unless the President exceeds his legal authority. For all the reasons given, DACA and DAPA do not do so.

The critics are especially fond of quoting a verbal gaffe by the President in one public gathering shortly after the announcement of DAPA. In response to a heckler who wanted him to go further, an exasperated President Obama apparently said ("But what you're not paying attention to is the fact that I just took action to change the law" Press Release, *Remarks by the President on Immigration* - Chicago, IL, The White House Office of the Press Secretary (Nov. 25, 2014). Of course, the President should not have used the word "law." A more accurate statement would have been that he had just changed the "policy." Judge Hanen saw great significance in that error. The judge read it as proof that the President had indeed changed the law and had done so consciously, despite having previously disavowed his power to do so. *Texas 2015*, at 107 and n.94. Other critics have similarly jumped on the President for casual spontaneous oral responses that the critics argue contradict his belief that DAPA is legal. See, e.g., Blackman II, at 45-54.

The case law of the 5th Circuit does not permit courts to attach legal consequences to such casual statements. In *Professionals and Patients for Customized Care*, 56 F.3d 592 (5th Cir. 1995), the court had to decide whether a policy of the Food and Drug Administration created binding norms that necessitated formal APA notice-and-comment rulemaking, or simply guidance as to the exercise of a discretionary power. The policy announcement explicitly required the exercise of discretion, but warning letters sent out by the FDA contained language that implied binding norms. The court refused to give significant weight to the letters. It explained: "Informal communications often exhibit a lack of 'precision of draftsmanship' and such internal inconsistencies are not unexpected, which is why such documents are generally entitled to limited weight." *Id.* at 599. If even written letters lack enough precision and formality to justify being treated as significant, common sense suggests that the President's spontaneous oral reaction to a heckler would command even less weight.

II STANDING

In *Texas 2015* the plaintiff states offered multiple theories for establishing standing. Ultimately, Judge Hanen accepted two of them. Because the opposing briefs provide detailed analysis and argumentation on standing, I take this opportunity to highlight only a few key points.

Judge Hanen’s principal basis for finding standing was that the federal government’s grant of deferred action would make the recipients eligible for driver’s licenses. In turn, at least one state (Texas) argued that the average cost of processing a driver’s license exceeded the application fee. Increasing the number of eligible drivers, the state argued, would therefore have a net negative fiscal impact on the state.

But that theory is highly problematic. First, the state’s estimated costs are based on statewide averages. Presumably those averages include the amortized share of the fixed costs – DMV facilities, equipment, administrative overhead, etc. Texas never alleged – much less offered evidence of – *any* marginal new cost attributable to the speculative number of deferred action recipients. The state failed to show, in other words, that it would have to hire any additional personnel, acquire any additional space, or obtain any additional equipment to handle the marginal increase in driver’s license applications – much less that any marginal new costs would exceed the additional revenue.

Second, the state’s calculations reflected only part of the fiscal equation. In estimating its “losses,” the state rightly deducted the extra revenue from the application fees, but it never deducted any of the huge tax savings that studies have consistently shown DAPA will generate – even though, as the court acknowledged in a footnote, the amicus briefs had provided empirical evidence that DAPA would have a net *positive* fiscal impact. See *Texas 2015* at 51 n.38. See also the impressive study by the Center for American Progress, *Economic Benefits of Executive Action for Texas* (Feb. 19, 2015), <http://www.scribd.com/doc/248188359/Economic-Benefits-of-Executive-Action-for-Texas>. (finding that increased taxes from higher wages would increase Texas’s tax revenues by \$338 million over five years – about three times the amount of the costs Texas claims it will incur.)

The likely positive fiscal impact on the state impedes the very purpose of the standing requirement. As the Supreme Court has observed, the rationale for the standing requirement is to assure “concrete adverseness which sharpens the presentation of issues upon which the court so largely depends for illumination.” *Massachusetts v. EPA*, 549 U.S. 497, 517 (2007), quoting *Baker v. Carr*, 369 U.S. 186, 204 (1962). When a state stands to gain from the very policy it is asking a court to invalidate, the incentive to litigate vigorously is to that extent diminished.

Third, even if there were some credible factual basis for Texas’s claim that its additional costs will exceed its additional revenue gains, it takes little imagination to see where acceptance of its theory would lead. The court emphasizes that it is the fact of the injury, not its size, that matters

for purposes of standing. *Texas 2015* at 23 n.15. If that is so, and if the mere fact that favorable immigration decisions by the federal immigration agency could have a net negative fiscal impact for a particular state were enough to confer standing, then the state in which a given noncitizen lives would have standing to challenge every individual grant of deferred action that it considered erroneous. After all, that person would become eligible to apply for a driver's license. In fact the theory would not stop with deferred action. The court's logic would permit the state to challenge every grant of every immigration benefit that leads to eligibility for a driver's license or any other state benefit. A state by the same reasoning could challenge any grant of naturalization, since citizenship could make the person eligible for state welfare benefits. And apart from individual cases, a state could even more easily demonstrate standing to challenge any federal immigration agency interpretation of law or policy decision that is likely to lead to a greater number of individuals becoming eligible for driver's licenses or any other benefit.

Perhaps aware of those pitfalls, Judge Hanen invented a second, alternative theory – “abdication” standing. The theory – which the court acknowledged no court has ever adopted, see *Texas 2015* at 67 n.48 -- is that a state will have article III standing to sue if the federal government asserts the exclusive right to act but abdicates its statutory duty to do so. As applied here, Judge Hanen's argument was that DHS had refused to enforce the law against 40% of the undocumented population.

First, for all the reasons discussed on pages 5-6 above, even if there were a legal basis for this theory, there can be no serious claim that DHS has “abdicated” its statutory responsibilities. Second, if abdication could be demonstrated, and standing thereby established, simply by showing that an agency with the resources to pursue only 4% of the violators had decided to confine its focus to 60% of them, then practically every law enforcement agency in the country would be subject to daily lawsuits from states or individuals who objected to the agency's enforcement priorities.

III

THE ADMINISTRATIVE PROCEDURE ACT: NOTICE AND COMMENT RULEMAKING

In *Texas 2015*, Judge Hanen preliminarily enjoined DHS from implementing either DAPA or the expansion of DACA. It found that the plaintiff states were likely to prevail with their claim that these executive actions required notice-and-comment rulemaking under the Administrative Procedure Act (APA), 5 USC § 553.

The issue was whether the executive actions constituted “general statements of policy,” which the APA specifically exempts from the notice-and-comment requirements. The Supreme Court has interpreted that term to include “statements issued by an agency to advise the public prospectively of the manner in which the agency proposes to exercise a discretionary power.” See, e.g., *Lincoln v. Vigil*, 508 U.S. 182, 197 (1993); *Chrysler Corp. v. Brown*, 441 U.S. 281, 302 n.31 (1979). In *Texas 2015*, the outcome of that test ultimately depended on whether DHS was

truly exercising a “discretionary” power, rather than requiring officers to apply binding criteria. Since that is precisely the same issue presented by the states’ constitutional and statutory claims discussed in section I.A.2.c, it is not necessary to repeat that analysis. As that previous discussion illustrated, the evidence in the record conclusively demonstrates the discretionary nature of both DACA and DAPA.

A Word on Policy

Although the main purpose of this testimony is to assure the Committee that the recent executive actions are on solid *legal* footing, I note briefly that these programs serve several common-sense *policy* goals as well. To summarize a few: Most will agree that, with finite resources, it is sensible to prioritize national security, public safety, and border security over separating families and destroying the long-term ties of those who have lived peacefully and productively in their communities for many years. Positive grants of deferred action draw the recipients out of the shadows and into the open. These individuals provide their names, addresses, and histories, and the government performs background checks to assure public safety. Surely this is healthier for everyone than maintaining a permanent underground culture. Police chiefs and other law enforcement professionals know that communities are also safer when undocumented immigrants who are either victims of crimes or witnesses to crimes feel secure enough to report the crimes to the police rather than avoid contact for fear of being deported.¹⁴ Federal and state tax revenues from those who receive deferred action will increase.¹⁵ Unscrupulous employers who currently know they can hire unauthorized workers at low wages will have less reason to hire them over U.S. workers and will no longer be able to drive down overall market wages or working conditions in the process.¹⁶ And as many have shown, these executive actions can stimulate economic growth in additional ways.¹⁷

Conclusion

¹⁴ Charlie Beck, Chief of the Los Angeles Police Department, Statement to the U.S. Senate Committee on the Judiciary, *Keeping Families Together: The President’s Executive Action on Immigration and the Need to Pass Comprehensive Reform* (December 10, 2014); Richard Biehl, Chief of the Dayton Police Department, et al., Letter to U.S. Senate Committee on the Judiciary (December 9, 2014); James R. Hawkins, Chief of the Garden City Police Department, Statement to the U.S. Senate Committee on the Judiciary, *Keeping Families Together: The President’s Executive Action on Immigration and the Need to Pass Comprehensive Reform* (December 10, 2014); National Task Force to End Sexual and Domestic Violence (NTF), Letter to U.S. Senate Committee on the Judiciary (December 9, 2014), <http://4vawa.org/4vawa/2014/12/11/ntf-supports-president-obamas-deferred-action-for-parents-and-expansion-of-the-deferred-action-for-childhood-arrivals-program>.

¹⁵ White House Council of Economic Advisors, *The Economic Effects of Administrative Action on Immigration* (2014), http://www.whitehouse.gov/sites/default/files/docs/cea_2014_economic_effects_of_immigration_executive_action.pdf; Elizabeth H. Shuler, Secretary-Treasurer, AFL-CIO, Statement to the U.S. Senate Committee on the Judiciary, *Keeping Families Together: The President’s Executive Action on Immigration and the Need to Pass Comprehensive Reform* (December 10, 2014), <http://www.judiciary.senate.gov/imo/media/doc/12-10-14ShulerTestimony.pdf>, at 2-3.

¹⁶ *Id.*

¹⁷ *Id.*

Reasonable people of good faith can certainly differ over the precise priorities the President should adopt when enforcing the nation's immigration laws with finite resources. Like the overwhelming majority of other immigration law professors and scholars, however, I believe that the *legal* authority for both the Prosecutorial Discretion Memo and the DACA/DAPA Memo is clear. There are Congress's express assignment of responsibility to the Secretary of Homeland Security for "establishing national immigration enforcement policies and priorities," in 6 U.S.C. § 202(5); the additional broad authority conferred by 8 U.S.C. § 1103(a); the long-settled recognition, by all three branches of our government, of broad prosecutorial discretion; the multiple provisions in which Congress has specifically recognized deferred action by name; the formal regulations that similarly recognize deferred action by name; the court decisions that do the same; the express grant by Congress of the power to decide who may be eligible for work permits; the formal regulations that have long made deferred action recipients specifically eligible for work permits; the absence of numerical limitations in any of these legal sources of authority; and the fact that the recent policy announcements will not prevent the President from continuing to spend all the immigration enforcement resources Congress gives him. All these sources lead to the same conclusion: The President's actions are well within his legal authority.

Thank you once again for the privilege of testifying before this Committee.

Immigration Status and Postsecondary Opportunity: Barriers to Affordability, Access, and Success for Undocumented Students, and Policy Solutions

By VICTORIA BALLERINI* and MIRIAM FELDBLUM†

ABSTRACT. Immigrant and undocumented students face significant barriers in accessing and obtaining a postsecondary degree. The anti-immigration agenda of the Trump administration and its impact on higher education made this issue of paramount concern. In this article, we review issues at the intersection of immigration and postsecondary education. First, we define the population of interest, with special attention to the differentiated rights of different groups. We argue for the policy significance of immigration for postsecondary education. Second, we provide an overview of the main identified barriers facing undocumented students in accessing postsecondary education. We then examine policies that have been adopted by states and by institutions of higher education to address some of those barriers. We conclude with policy recommendations to improve affordability, access, and success for undocumented students and argue for the inclusion of immigration status as a variable in research on equity in postsecondary education.

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Introduction

On his first day in office, newly inaugurated President Biden announced several executive actions, including a memorandum “Preserving and Fortifying Deferred Action for Childhood Arrivals (DACA).”¹ This stood in sharp contrast to the previous four years during which the Trump administration advanced a broad range of exclusionary immigration rules, policy memos, and executive orders that adversely impacted undocumented students and families as well as international students and scholars. During those years, leaders and practitioners at colleges and universities, and policymakers coordinating higher education systems had to quickly assess the implications of changing policies on their communities, scramble to meet new regulations, and/or challenge them in court. While the siege has lifted under the new Biden-Harris administration, higher education leaders still have to grapple with the significant impacts that immigration policies have on immigrant and international students in higher education.

Federal and state policies affecting undocumented students, students with DACA, and other immigrant-origin students require further examination to inform likely debates on immigration policy and immigrant rights. While researchers had been examining the barriers immigrant students and, in particular, undocumented students face to access and obtain a postsecondary degree, the continuing uncertainty surrounding DACA and immigration reform means that issues at the intersection of immigration policy and postsecondary opportunity are particularly relevant for postsecondary stakeholders. There is a need for better understanding the implications of these issues for higher education, immigrant integration, and social inclusion.

In this article, we offer some tools for that debate. First, we define the population of interest, with special attention to the differentiated rights of different groups, and argue for the policy significance of immigration for postsecondary education. Second, we provide an overview of the main barriers facing undocumented students in accessing postsecondary education and the policies adopted by states and institutions to address some of those barriers. Based on the barriers that are inadequately addressed by current policies, we then provide policy recommendations to improve affordability, access, and success

for undocumented students. We conclude by arguing that immigration status should be included as a variable in research on equity in post-secondary education and by recommending areas for further research.

Undocumented Immigration Status

We use the word “undocumented” to refer to those immigrants lacking authorized legal documents or having a liminal (temporary) protective status, such as DACA, to reside in the United States. Undocumented immigrants are usually defined as foreign-born individuals who entered the United States without inspection or stayed beyond the expiration of a visa, who do not hold permanent resident visas, or who are not protected under other policies that allow for long-term residency or work permits (Suárez-Orozco et al. 2011). DACA recipients are a subset of the undocumented population who satisfy certain criteria and—under the 2012 DACA program—receive two-year renewable grants of work authorization and protection from deportation.² DACA also allows undocumented students the opportunity to have a Social Security number and obtain a driver’s license (Enyioa 2019).

Nationally, there are over 10 million undocumented immigrants (Kamarck and Stenglein 2019), of which approximately 700,000 are active DACA recipients (National Immigration Law Center 2020). There are 450,000 undocumented students in higher education, representing 2 percent of all postsecondary students. A subset of these students, numbering approximately 216,000, are DACA recipients or DACA-eligible³ and represent 1 percent of all postsecondary students. The largest number of undocumented students in higher education are in California and Texas, at 92,000 and 66,000, respectively (New American Economy and Presidents’ Alliance 2020).

Although this article focuses on undocumented and/or DACA students, students who are U.S. citizens or permanent residents with families of mixed immigration status also experience immigration-related barriers and stressors. A recent study shows that as of 2018, there were 5.3 million immigrant-origin students in higher education, representing 28 percent of all postsecondary students. (International students were not included.) The study defines immigrant-origin students as

students who are first generation immigrants (born outside of the United States) or second-generation immigrants (U.S.-born to one or more immigrant parents). Of the 1.7 million first-generation immigrant students, a little over a quarter are undocumented/DACA students, while the remainder are naturalized U.S. citizens, green-card holders, refugees, asylees, or otherwise authorized. Likewise, a portion of the second-generation immigrant students come from families of mixed immigration status, including undocumented parents or other family members. The report underscores both the importance of immigrant-origin students in higher education and the personal and consequential bearing that immigration policy has on them, not only on undocumented or international students, but also on the many students coming from immigrant families (Batalova and Feldblum 2020).

Immigrant-origin students have been a significant driver of enrollment growth for colleges and universities, accounting for nearly 60 percent of postsecondary enrollment growth between 2000 and 2018. Further, immigrant-origin workers are projected to drive U.S. labor force growth until at least 2035 (Batalova and Feldblum 2020). The study demonstrates the large proportion of immigrant students in higher education, with implications for enrollment management, racial equity, institutional-level supports, and broader postsecondary attainment agendas.

Undocumented students, DACA students, asylee and refugee students, and students with citizenship or legal permanent residency from families of mixed immigration status may all face different sets of constraints related to their immigration status and have differentiated rights. The literature has yet to examine in depth whether these distinctions have different implications for postsecondary affordability, access, and success.

Policy Significance

Legal Framework and Segmented Rights

The Supreme Court held in *Plyler v. Doe* (1982) that undocumented students have the right to free public primary and postsecondary education, and that school districts cannot discriminate against children

based on immigration status. The Court also stated that children have no control over their parents' decision to immigrate without documentation and should not be held accountable (Enyioa 2019). As a result of this decision, undocumented children grow up with legal access to public K–12 (primary and secondary) education but face significant barriers to postsecondary and economic opportunities (Abrego and Gonzales 2010).

Based on the current legal framework, access to educational opportunity becomes segmented in two ways. First, undocumented students have the right to public education until they graduate from high school, but federal policy does not guarantee undocumented students the right to postsecondary education. Second, as undocumented individuals navigate life after high school, the opportunity to access postsecondary education and other benefits to which they are entitled is often contingent on the state where they reside, which adds an additional layer of segmentation to the structure of education and economic opportunity. Every year, an estimated 125,000 undocumented students reach high school graduation age, and 98,000 undocumented students graduate from high school facing uneven prospects (Batalova and Zong 2019).

Given the absence of federal policy on what happens to undocumented students after high school, states have adopted a range of policies to either expand or hinder opportunity for these students, as discussed in the sections on barriers to affordability and access and policy solutions.

*Undocumented Students and Race-Conscious
Postsecondary Attainment Agendas*

The advent of DACA and the extension of in-state tuition and financial aid to undocumented students in a growing number of states have increased college-going rates among undocumented students, yet these students still complete college at lower rates than their peers. Policymakers, funders, and educational policy organizations have called for more educationally credentialed adults for two reasons: first, a skilled workforce is necessary for the United States to remain globally competitive and, second, individuals completing postsecondary

education are more likely to be employed and earn higher salaries than their peers (Carnevale and Wenzinger 2020). Forty-three states have formally established postsecondary attainment goals and advanced policies to meet those goals (Lumina 2020). But analyses of degree attainment by race and ethnicity identify a gap in every state between Black and white adults and between Latinx and white adults (Nichols, Schak, and Jones 2018). Advocates have raised awareness about race and ethnicity being a significant factor impacting the likelihood of obtaining a postsecondary credential. Consequently, some states have embedded racial equity goals in their postsecondary attainment agendas to both increase attainment and to close or eliminate gaps (Meehan, Ballerini, and Hagood 2019).

Of the 454,000 undocumented students estimated to be enrolled in postsecondary education nationally, 46 percent are Latinx, 25 percent are Asian American and Pacific Islander, 15 percent are Black, 12 percent are white, and the remaining 2 percent include biracial and multiracial students (New American Economy, Presidents' Alliance 2020). Given the substantial number of undocumented high school students graduating every year, as well as the racial and ethnic diversity of undocumented students in postsecondary education, policies that promote postsecondary affordability, access, and completion for these students will contribute to the advancement of race-conscious postsecondary attainment goals (Research for Action, Presidents Alliance 2020). However, to be effective, these policies should consider the unique set of barriers that undocumented students face due to their immigration status. The following sections will review the main barriers facing undocumented students in accessing and completing postsecondary education.

Main Barriers to Postsecondary Affordability, Access, and Success

This review is guided by a framework for the analysis of postsecondary policy that analytically differentiates program components and policies according to their implications for postsecondary affordability, access, and success (Callahan et al. 2019). This framework was used to analyze Promise programs,⁴ whose complex designs include program components addressing different barriers facing students.

Nonetheless, the framework can be a useful guide to analyze postsecondary opportunity more broadly, as it covers the main issues that either facilitate or hinder the attainment of a degree.

According to this framework, *affordability* policies are those concerning financial aid at all levels (federal, state, and institutional). Policies impacting *access* to postsecondary education concern who is eligible for college admission and for different postsecondary benefits, including financial aid, as well as how college and career guidance is offered by high schools and other organizations. Staff who offer college and career advising make students aware of the opportunities that are available to them, thus shaping their expectations for life after high school. Finally, policies supporting student *success* are related to measures to increase student engagement, accountability, and academic preparedness, as well as to initiatives supporting students to meet basic needs such as food, housing, transportation, and other social services.

Policies to improve affordability, access, and success have been designed and implemented at different levels and in different jurisdictions. Policies to improve affordability include policies at the state level (statewide), system level (for example, Board of Regents or similar entity), and institutional level (colleges and universities). Policies to improve access include policies pertaining to college and career advising at the state, school district, or school level. Finally, although some states have statewide policies to improve student success or provide funding to individual institutions for that purpose, most of those policies are designed and implemented at the institutional level. In the sections below, we summarize the main barriers facing undocumented students related to college affordability, access, and success, along with the policies that have been designed to address them.

Prohibition of Access to Federal Financial Aid

Neither undocumented nor DACA students are eligible for federal financial aid, such as federal grants (Pell, FSEOG), federal work-study, or student loans. In 1996, two pieces of legislation excluded undocumented immigrants from social safety nets and impacted postsecondary opportunity. The Personal Responsibility and Work Opportunity

Responsibility Act (PRWORA) bars the provision of federal public benefits, including federal financial aid, and “state and local public benefits” for non-qualified “aliens” unless the state passes an affirmative law making them explicitly eligible, including “postsecondary benefits.”

The Illegal Immigration Reform and Immigrant Responsibility Act (IIRIRA) stipulates that undocumented immigrants cannot receive state postsecondary benefits solely based on where they live unless they additionally meet the following qualifications: 1) attended public school in the state for three years prior to graduation, 2) earned a high school diploma or GED in the state, and 3) lived in the state for 12 months prior to the date of the student’s enrollment in postsecondary education (Enyioa 2019).

State-Funded Financial Aid Fills in the Gap

After PRWORA and IIRIRA, some states passed legislation to start offering in-state tuition and state financial aid to undocumented students. Others established prohibitions to enrolling in public institutions. The rest remained silent on the issue. This left systems, subsystems (such as community college systems), or individual institutions to determine their own policies. As of September 2020, 21 states offered in-state tuition to undocumented students, while undocumented students or DACA recipients who otherwise qualify for in-state tuition had access to in-state tuition at one or more public institutions in 13 other states. At least 15 states and the District of Columbia made undocumented students eligible for state financial aid and/or scholarships (Presidents’ Alliance 2020).⁵ In some cases, depending on budget allocations for state financial aid each year, undocumented students receive state funds only after U.S. citizens and other eligible students are fully funded (Ballerini et al. 2019). To award state financial aid, states assess the financial need of undocumented students via a financial aid form alternative to the Federal Application for Federal Student Aid (FAFSA), administered either at the state or institution level (Burkander et al. 2019; Burkander, Kent, and Callahan 2019).

In addition to in-state tuition and state financial aid, state loan programs, such as the California Dream Loan Program, provide loans to students who are eligible to receive state financial aid, offering interest rates

that are comparable to those of the Federal Direct Subsidized Stafford Loan. In states that have no policies or exclusionary policies, undocumented students are either banned from attending public institutions—making private institutions their only option—or have to either pay out-of-state tuition or pay as international students, making costs significantly higher and unaffordable for many (Mehta and Ali 2003).

Undocumented student eligibility for in-state tuition and state financial aid vary greatly by state, with states ranging from comprehensive policies to prohibitive enrollment. Some states offer postsecondary benefits only to DACA recipients, while others include all undocumented students (Presidents' Alliance 2020). There is also variation within states; in a single state, undocumented students may be eligible for all or some of the state-funded financial aid programs, such as need-based aid, merit-aid, and Promise programs or free-tuition programs. This overview does not account for the growing number of private institutions across the country that also offer enrollment to undocumented students and process access to institutional funding or other scholarships for them.

Table 1 summarizes the barriers to postsecondary affordability as well as current policies. In a third column, we summarize policy recommendations that can expand and improve affordability for undocumented students.

Research shows positive effects of offering in-state tuition and state financial aid to undocumented students, as it increases college enrollment and improves outcomes such as academic achievement, credits attempted, and first-semester retention (Flores 2010a, 2010b; Flores and Horn 2009; Kaushal 2008; Ngo and Astudillo 2019). However, research to date has found no evidence that these policies improve completion rates (Darolia and Potochnick 2015). Although these policies improve affordability for undocumented students, they do not address other crucial barriers impacting access to information, retention, and completion of undocumented students.

Inconsistent and Inaccurate College and Career Advising and Messaging

The transition from high school to life after high school usually requires that individuals provide state-issued forms of identification

and proof of legal status (Pérez 2012). Constrained in their ability to obtain a driver's license, buy a cellphone, apply for a work permit, and apply for financial aid to go to college, undocumented students face additional barriers that differentiate them from their peers. Completing

Table 1
Barriers to Affordability, Current and Recommended Policies

Barriers to Affordability	Current Policies	Recommended Policies
No access to federal financial aid, including grants, work-study, and loans	PRWORA bars the provision for “non-qualified aliens” of federal public benefits and “state and local public benefits” unless state makes them eligible, including “postsecondary benefits.”	Repeal PRWORA prohibition on postsecondary benefits for “non-qualified aliens.” Ensure federal aid for individuals who obtain relief through Dream Act or similar law.
Limited to no access to state financial aid	Section 505 of IIRIRA bars states from providing “postsecondary education benefits” to those “not lawfully present” based on in-state residency unless all U.S. citizens eligible. State policy affects: <ul style="list-style-type: none"> • In-state tuition • Access to state financial aid (need-based, merit, Promise, or free-tuition programs) • Access to institutional aid, state loan programs (e.g., California Dream Loan) 	Repeal IIRIRA’s Section 505 prohibition on in-state tuition based on residency. Expand Promise or tuition-free college to undocumented students. Extend eligibility of in-state tuition and financial aid to undocumented students who would otherwise qualify for in-state tuition/financial aid

Note: PRWORA = Personal Responsibility and Work Opportunity Responsibility Act; IIRIRA = Illegal Immigration Reform and Immigrant Responsibility Act.

forms with personal information and fulfilling requirements to access benefits for which they do not know if they are eligible, both during this transition and later in college, often means having to take difficult risks that may compromise their safety as well as that of their family members (Gonzales 2008).

Applying for scholarships and other funding creates anxiety due to lack of legal status, which may prevent students from applying for scholarships (Pérez et al. 2010). While students are required to complete the Federal Application for Federal Student Aid (FAFSA) in high school to access federal financial aid, undocumented and DACA students are not eligible. Even for those students who are U.S. citizens from mixed-status families, completing the FAFSA becomes challenging when it requires providing personal and tax information of an undocumented parent, and students and families may be reluctant to fill it out (Contreras 2009).

Trusted school and college practitioners, as well as staff from community organizations providing college and career advice, can play a key role in helping undocumented students navigate the college process (Enyioa 2019). However, the postsecondary benefits that undocumented students have access to vary greatly by state, and also within a state, making the admissions and financial aid landscape more complex for undocumented students than it already is for all other students.

Institutional barriers combine with lack of expertise among high school and college administrators, faculty, and staff on the complexity of immigration policy and its implications for postsecondary opportunity to present a serious challenge (Hesse 2017; Nguyen and Serna 2014; Davidson and Preciado 2017). High school counselors and college admissions staff are not always aware of the opportunities that undocumented students have access to, leading to inconsistent and inaccurate information (Ballerini, Feldblum, and Kent 2020; Barnhardt et al. 2013; Hesse 2017; Nienhusser et al. 2016). Moreover, undocumented students are less likely to be viewed as college-going by high school staff and, as a result, are not always offered relevant information (Nienhusser et al. 2016). Finally, research has found that undocumented students tend to lack strong social networks and social capital in the secondary school context (Cebulko 2013; Garcia and Tierney 2011).⁶

Strategies to Reduce Information Gaps

Due to the ever-changing and complex nature of immigration policy and of state postsecondary benefits, lack of information among educators and practitioners becomes a challenging problem to tackle. Immigration policy paradigms also shift between inclusionary and exclusionary approaches, while public opinion is shaped with narratives created to justify each approach. Given the complexity of the issue, policies to address information gaps and promote trust are limited. Examples include state-level, institution-level, and district-level initiatives.

At the state level, Oregon, for example, is acting on this informational challenge. The Oregon Higher Education Coordinating Commission publishes numerous materials on its website in both English and Spanish and has developed a communications toolkit for practitioners and advocates in its state that clarifies the range of postsecondary benefits to which undocumented students have access (Oregon Higher Education Coordinating Commission 2020).

At the postsecondary level, some colleges and universities offer “ally training” for faculty, staff, and students who wish to become allies to undocumented students (Freeman et al. 2020). The training typically covers basic information about state and federal legislation, raises awareness of the challenges undocumented students face, and offers information on relevant campus and community resources. College outreach and admissions staff who are aware of these issues will be better equipped to advise prospective undocumented students. At the school-district level, partnerships with immigrant organizations trusted in their communities can be useful to provide college and career advice and bridge the information gap (Southern, Wisell, and Casner-Lotto 2017).

The Community College as the Access Point to Postsecondary Education

Because community colleges provide a more affordable and accessible avenue to postsecondary education, immigrant and undocumented students are more likely to attend them. Immigrant-origin status applies to one-third of all community college students (Southern et al. 2017; Suarez-Orozco et al. 2019). While community colleges provide postsecondary opportunity for almost half of all the students enrolled

in postsecondary education, they have been historically underfunded and under-resourced. Suboptimal levels of funding at community colleges prevent these institutions from adequately serving their students, most of whom are low-income, minority, and/or immigrant (Beach 2011). Despite the potential of community colleges for providing educational opportunity, 40 percent of students who enroll in community college graduate within six years (Bailey et al. 2015). These completion rates may be lower for immigrant and undocumented students.

Community colleges have undergone a series of reforms to address low retention and graduation rates. Although the analysis of community college reform is outside the scope of this article, reform based on guided pathways that provide a clear road map to a degree has received a lot of attention. Teranishi et al. (2019) argue for increased attention to issues impacting immigrant students, such as help navigating financial aid and creating inclusive learning environments. In the next section, we discuss in more detail the main barriers to success faced by undocumented students and institutional policies that have been designed to address them. Table 2 summarizes the barriers to postsecondary affordability as well as current policies. In a third column, we summarize policy recommendations that can expand and improve postsecondary access for undocumented students.

Barriers to Success and Policy Solutions

Undocumented students face a range of obstacles that may encumber degree completion, including the ever-changing landscape and uncertainty of immigration policy, psychological and social burdens related to immigration, and lack of access to public benefits to meet basic needs (Bjorklund 2018; Education Trust-West 2018; Suarez-Orozco et al. 2011; Teranishi et al. 2015). Below, we discuss some of these barriers as well as policy solutions.

Psychological and Identity Issues

Some authors refer to the undocumented student's transition from high school into adulthood as the "transition to illegality" (Gonzales 2016; Pérez 2012). This transition marks the end of the right to free

public education and the beginning of lived experiences of blocked opportunities, stigma, and fear (Pérez 2012). This “transition to illegality” is typically associated with psychological and social burdens that further constrain students’ abilities to pursue postsecondary education and be successful (Bjorklund 2018). These students grow up “American” yet only have partial access to mechanisms that promote social inclusion and mobility (Pérez 2012). Research has pointed to conflicts of identity as students begin to question the narratives and identities about self and world and are forced to reassess the feasibility of their aspirations (Gonzales et al. 2013; Suarez-Orozco et al. 2011). Awareness of the limitations of their legal status often has negative effects on mental health and well-being. In addition, fear of deportation may prevent students from seeking the help they need. Undocumented students have high rates of anxiety and depression (Teranishi et al. 2015). While counselors and mental health professionals on campus can offer support, they are often unfamiliar with the issues the students face, and students find it hard to build trusting relationships with them (Muñoz 2013).

Structural Barriers to Meet Basic Needs

As of 2015, one in four undocumented immigrants lived below the poverty line and over half lacked health insurance coverage (Hines 2018). In addition to requiring financial support to succeed in college, low-income students are likely to face food and housing insecurity, as well as childcare and transportation challenges (Daugherty et al. 2020). Some postsecondary institutions offer case management or referrals to public benefits and services offered by community-based organizations to support food, housing, legal, transportation, and childcare needs. Research has identified that these comprehensive student supports are effective ways to increase rates of student success in postsecondary education (Daugherty et al. 2020; Miller et al. 2020; Scrivener et al. 2015). However, these studies do not consider whether immigrant and undocumented students either use or benefit from these services. Previous research has found that due to fear of deportation, undocumented or mixed-status families are less likely to seek the social services they need, even when their children may be eligible (Abrego and

Table 2

Barriers to Access, Current and Recommended Policies

Barriers to Access	Current Policies	Recommended Policies
State policy on eligibility for admission to public institutions	Prohibitions on enrolling in public institutions	States should offer eligibility to enroll in public institutions to undocumented students who would otherwise qualify for admission. Congress should: <ul style="list-style-type: none"> • mandate nondiscrimination in admissions and enrollment based on immigration status • incentivize states through grants.
Staff offering college and career advice lack consistent & accurate information on postsecondary opportunities for undocumented students	<ul style="list-style-type: none"> • Communication toolkits • Ally trainings • Cross-sector partnerships 	School districts/high schools can partner with community-based organizations, advocacy groups, and higher education institutions offering trainings.
Community colleges as entry point to postsecondary education may not provide adequate support for students and have lower graduation rates compared to four-year colleges	Community college reforms include guided pathways	See next section for policies to address student success.

Gonzales 2010). Changes to the public charge rule⁷ have exacerbated this concern, with research demonstrating the “chilling effects” on populations not targets of the rule as well as the declining use of benefits not covered by the rule (Armus 2018; Straut-Eppsteiner 2020).

Transportation Barriers

While many students face transportation barriers, these are exacerbated for undocumented individuals who, depending on where they live, may be unable to get a driver's license. Only 15 states and Washington, DC allow undocumented immigrants to obtain driver's licenses. On the other hand, DACA recipients are eligible for driver's licenses in any state (NCSL 2020). When students are unable to get a driver's license, they must either spend long hours on public transportation if available, or drive without a license (Bjorklund 2018; Abrego and Gonzales 2010). These barriers to mobility hinder not only students' ability to engage in different campus activities, but also to seek and maintain employment during and after college.

Barriers to Career Development

Because they lack work authorization, undocumented students are constrained in their ability to participate in internships and to obtain employment upon graduation. Regardless of employment authorization, internships play a key role in providing undocumented students with an opportunity to gain practical experience and career development (Bjorklund 2018). In states that offer occupational and professional licensure, students have more opportunities upon graduation. Immigrant organizations offer career guidance on opportunities for licensing, employment through worker cooperatives, and entrepreneurship. Colleges and universities can partner with immigrant organizations to offer these services and/or train their career advising staff through ally trainings.

Comprehensive Policy Solution

One policy solution to the wide range of barriers to success that colleges and universities have implemented is noteworthy. Undocumented

Student Resource Centers (USRCs) have been established at different institutions and provide a variety of services, including academic and career advising, mental health and legal services, food, and financial assistance. As of 2018, there were 56 USRCs, most of them located in California. Other states where institutions have established USRCs include Washington, Oregon, Utah, Arizona, Texas, Florida, Colorado, and New Jersey. Out of the 56 USRCs identified, 31 were at four-year institutions, while the remaining 25 were at two-year colleges (Cisneros and Valdivia 2018).

USRCs are common in states and localities with large numbers of undocumented students. Although not all colleges and universities are able to offer such a wide range of services tailored directly to undocumented students, they can partner with community-based organizations that work with immigrants and can provide adequate support.

It is important to note that despite many of the challenges summarized in these sections, undocumented students also demonstrate remarkable resilience and motivation (Suarez-Orozco et al. 2019). They also have high levels of civic engagement, including social service, volunteering, community work, or activism (Pérez 2012). Most importantly, undocumented activism has driven many of the policy solutions summarized above, as undocumented students have often led the development of programs and policies (Cisneros and Valdivia 2018).

Table 3 summarizes the barriers to postsecondary success as well as current policy solutions. In a third column, we summarize policy recommendations that can expand and improve postsecondary success for undocumented students.

Conclusion

Almost one-third of all postsecondary students belong to immigrant and international communities. They have also accounted for almost 60 percent of postsecondary enrollment growth in the last 20 years. Acknowledging that situation shifts the conversation away from a story about “them”—as it is often cast by anti-immigration proponents—to a story about “us.” It deepens our investment in these trends and positions them within the national context. Yet,

immigration status as a variable is still largely invisible in studies examining equity in postsecondary opportunity. As this article has shown, immigration status shapes and constrains educational trajectories and hence should be included in frameworks used to assess equity, especially when examining transitions from high school into college, as well as in research on postsecondary retention, graduation, and attainment. Immigration status should be added to variables such as race/ethnicity, socioeconomic status, and other context-specific indicators of inequality in analyses of equity in higher education opportunity. Moreover, immigration status should be understood in its intersectionality with race, ethnicity, socioeconomic status, religion, and gender identity (Bjorklund 2018).

Research on immigration and higher education has predominantly focused on undocumented students and DACA students. Immigrant-origin students include a wide range of groups, including asylee and refugee students, and students with citizenship or residency but who grow up in immigrant families. These immigration-impacted students face different sets of constraints related to their immigration status and have differentiated rights. Research should inquire whether these distinctions have different implications for postsecondary affordability, access, and success. If so, different policy solutions should be designed to address them.

In *Plyler v. Doe* (1982), the Supreme Court pointed to the “pivotal role of education” and concluded that denying K–12 education to undocumented children would result in a “lifetime of hardship” and a permanent “underclass” of individuals (as cited in Abrego and Gonzales 2010: 149). Since this ruling almost 40 years ago, the U.S. economy has changed significantly, and a high school education no longer guarantees employability or economic mobility. Access to and attainment of postsecondary education has become a condition for economic and social inclusion and mobility in the 21st century. Unless Congress passes legislation to provide a path to citizenship for undocumented immigrants, policies that seek to expand postsecondary opportunity should consider the complex interplay of immigration policy and postsecondary and economic opportunity.

Table 3

Barriers to Success, Current and Recommended Policies

Barriers to Success	Current Policies	Recommended Policies
Mental health issues: “transition to illegality,” liminal status, and fear of deportation	Campus-level counseling and mental health support	Offer mental health services via Dream Resource Centers or community-based organizations focused on immigration.
Transportation barriers	15 states offer driver’s licenses to undocumented individuals	More states offer access to driver’s licenses to remove barriers to mobility.
Lack of access to benefits to support basic needs	PRWORA denies undocumented persons federal means-tested benefits, such as SNAP and TANF Public charge rule	Rescind the public charge rule.
Barriers to career development	Some states and/or licensing boards allow undocumented individuals to obtain a professional or occupational license.	Remove barriers based on immigration status to licensure (professional and occupational) for any otherwise qualified applicant. Postsecondary institutions partner with immigration organizations for career advising of undocumented students.

Note: PRWORA = Personal Responsibility and Work Opportunity Responsibility Act; SNAP = Supplemental Nutrition Assistance Program (“food stamps”); TANF = Temporary Assistance for Needy Families. The “public charge rule” allows immigration officials to judge whether a visa applicant or immigrant may, in the future, become dependent on public benefits. Status of rule uncertain as of January 2021.

People without citizenship or voting rights have effected change and expanded mainstream democratic practices throughout our history. Like many groups before them, undocumented activists are leading fights for civil, social, and political rights, and are becoming a force in government policy, as proven by the DACA program and the ongoing push to pass Dream legislation. Undocumented individuals are racially and ethnically diverse, and have been at the frontlines of the global health crisis, serving in occupations facing critical shortages such as healthcare and education, as well as participating in other essential critical infrastructure work such as farming, food distribution, and food service. Improving postsecondary affordability, access, and success for undocumented students creates better conditions for social inclusion, leading to more dynamic societies, where marginalized groups have an increased capacity to make demands upon democracy.

Notes

1. DACA stands for Deferred Action for Childhood Arrivals, a policy designed to delay for at least two years the deportation of children who came to the United States with parents who lacked proper documentation.

2. A July 2020 DHS Wolf memo reduced the grant period to one year (Department of Homeland Security 2020).

3. DACA stopped accepting new applications after September 5, 2017.

4. Promise programs typically offer tuition-free education at community colleges and/or four-year institutions. In addition to improving college affordability, they also include components that intend to improve college-going and student success.

5. State financial aid programs available to undocumented students include need-based aid, merit-aid, and Promise programs, which are often last-dollar programs that cover any unmet financial need after all other gift aid has been applied (Callahan et al. 2019).

6. Although acknowledging the lack of social and cultural capital in some spheres is needed to create adequate student supports at the institutional level, research has found that undocumented students use different forms of capital “to navigate institutional barriers, give back to their communities, strengthen their emotional and social wellbeing, and work toward social justice” (Bjorklund 2018: 654).

7. Introduced by the Immigration Act of 1882, the public charge rule requires government officials to measure the likelihood of an immigrant to the United States becoming dependent on government benefits.

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NFIB SMALL BUSINESS ECONOMIC TRENDS

William C. Dunkelberg
Holly Wade

August 2019

SMALL BUSINESS OPTIMISM INDEX COMPONENTS

Index Component	Seasonally Adjusted Level	Change from Last Month	Contribution to Index Change
Plans to Increase Employment	20%	-1	6%
Plans to Make Capital Outlays	28%	1	-6%
Plans to Increase Inventories	2%	-1	6%
Expect Economy to Improve	12%	-8	50%
Expect Real Sales Higher	17%	-5	31%
Current Inventory	-6%	-3	19%
Current Job Openings	35%	-4	25%
Expected Credit Conditions	-2%	2	-12%
Now a Good Time to Expand	26%	0	0%
Earnings Trends	-1%	4	-25%
Total Change		-15	100%

Based on a Survey of Small and Independent Business Owners **AR2022_502732**

NFIB
SMALL BUSINESS
ECONOMIC TRENDS

NFIB Research Center has collected Small Business Economic Trends Data with Quarterly surveys since 1973 and monthly surveys since 1986. The sample is drawn from the membership files of the National Federation of Independent Business (NFIB). Each was mailed a questionnaire and one reminder. Subscriptions for twelve monthly SBET issues are \$250. Historical and unadjusted data are available, along with a copy of the questionnaire, from the NFIB Research Center. You may reproduce Small Business Economic Trends items if you cite the publication name and date and note it is a copyright of the NFIB Research Center. © NFIB Research Center. ISBS #0940791-24-2. Chief Economist William C. Dunkelberg and Director of Research and Policy Analysis Holly Wade are responsible for the report.

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SUMMARY

OPTIMISM INDEX

The Optimism Index fell 1.6 points to 103.1, historically a very solid reading and still with in the top 15 percent of all readings. In terms of real economic activity, August was a very good month. Job creation accelerated, quarter on quarter sales gains remained strong, and favorable profit trends and actual capital spending improved.

The decline in the Index was driven by weakened expectations for the future as significantly fewer owners expected better business conditions and better real sales volumes in the coming months. This accounted for 80 percent of the Index decline. Apparently all the recession talk took its toll on the economic outlook for Main Street business owners. The Uncertainty Index reflected owner sentiment with a 4 point gain. All this will likely translate into more caution in hiring and capital spending even though current business conditions are very positive. Pessimism is contagious, even when the real economy is doing well, expectations can be infected and turn sour. Those rooting for a recession are having a psychological impact in spite of a strong Main Street economy.

LABOR MARKETS

Job creation picked up in August, with an average addition of 0.19 workers per firm compared to 0.12 in July. Finding qualified workers is becoming more and more difficult with a record 27 percent reporting finding qualified workers as their number one problem (up 1 point). Thirteen percent (up 3 points) reported increasing employment an average of 4 workers per firm and 6 percent (down 1 point) reported reducing employment an average of 3.9 workers per firm (seasonally adjusted). Sixty-four percent reported hiring or trying to hire (up 1 point), but 57 percent (89 percent of those hiring or trying to hire) reported few or no “qualified” applicants for the positions they were trying to fill. If the widely discussed slowdown occurs, a significant contributor will be the unavailability of labor—hard to call that a “recession” when job openings still exceed job searchers.

CAPITAL SPENDING

Fifty-nine percent reported capital outlays, up 2 points on top of a 3 point gain in July. Of those making expenditures, 42 percent reported spending on new equipment (up 1 point), 24 percent acquired vehicles (down 1 point), and 18 percent improved or expanded facilities (up 2 points after a 4 point gain in July). Four percent acquired new buildings or land for expansion (down 2 points) and 15 percent spent money for new fixtures and furniture (up 3 points).

Twenty-eight percent plan capital outlays in the next few months, up 1 point. Plans to invest were strong in manufacturing, 35 percent and agriculture and the wholesale trades each at 30 percent. The effects of the new tariff wars remain uncertain. Owners are more reluctant to make major spending commitments when the future becomes less certain so the increase is not supportive of future capital investment.

This survey was conducted in August 2019. A sample of 5,000 small-business owners/members was drawn. Six hundred and eighty (680) usable responses were received—a response rate of 13.6 percent. AR2022_502734

SALES AND INVENTORIES

A net 6 percent of all owners (seasonally adjusted) reported higher nominal sales in the past three months. Although consumer optimism fell last month, consumer spending has been exceptionally strong and consistent with owner reports of positive sales trends.

The net percent of owners reporting inventory increases fell 1 point to a net 1 percent, indicating that inventory rebuilding is still underway, although at a slower pace. The contribution of inventory investment to GDP growth will likely be positive but modest in the third quarter. The net percent of owners viewing current inventory stocks as “too low” fell 3 points to a net negative 6 percent, indicating rising concern about the size of inventory stocks on hand. The sharp decline in expected real sales gains changed “satisfactory” stock levels into “excessive” for many firms.

COMPENSATION AND EARNINGS

Reports of higher worker compensation fell 3 points to a net 29 percent of all firms—a relatively high reading. Plans to raise compensation rose 2 points to a net 19 percent. Overall, the gap between the percent raising prices and the percent raising compensation gradually closed last year, but then surged to over 20 points in the first half of 2019. In August, the gap was still 18 percentage points, indicating that owners are still not passing on higher compensation costs. Firms are likely to continue to offer improved compensation to attract and retain qualified workers because the only solution in the short term to an employee shortage is to raise compensation to attract new workers and train less qualified employees.

CREDIT MARKETS

Four percent of owners reported that all their borrowing needs were not satisfied, up 1 point but historically near a record low. Thirty-one percent reported all credit needs met (up 3 points) and 52 percent said they were not interested in a loan, down 4 points. One percent reported their last loan was harder to get than the previous one, the record low. Credit conditions are about as supportive as they have ever been in the 46-year survey history. Thirty-three percent of all owners reported borrowing on a regular basis (up 4 point). The average rate paid on short maturity loans fell 30 basis points to 6.1 percent. Overall, credit markets have been very supportive of growth and will not likely become an impediment this year with the Fed cutting rates. However, a more dismal outlook for the economy will reduce capital spending and the associated borrowing to finance it.

INFLATION

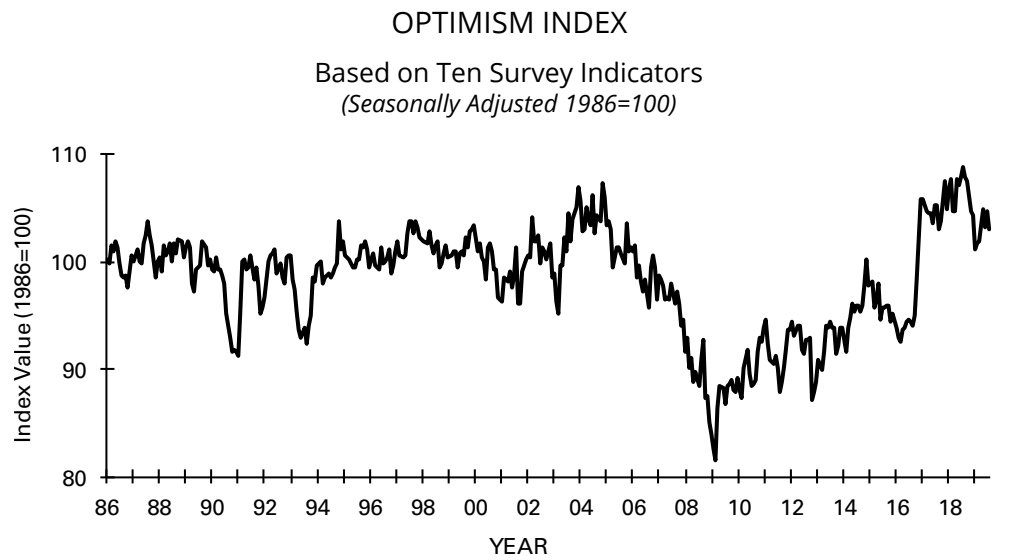
The net percent of owners raising average selling prices fell 5 points to a net 11 percent, seasonally adjusted, reversing most of the 7 point surge in June. Seasonally adjusted, a net 17 percent plan price hikes (down 5 points). While 11 percent reported cutting selling prices in recent months, only 2 percent plan to do so, suggesting that most price cutting is an unanticipated, unplanned response to market conditions—a healthy process. This does not reflect higher inflation.

COMMENTARY

Wall Street commentators joined by some economists have produced a cacophony of warnings about a coming recession. Not joining the noise is half the U.S. economy: small businesses. They do not agree and don't see a disaster in the near future. They are also quite unsure that cutting interest rates now will help the Federal Reserve to get more inflation or spur spending. On Main Street, inflation pressures are very low. Spending and hiring are strong, but a quarter point reduction will not spur more borrowing and spending, especially when expectations for business conditions and sales are falling because of all the news about the coming recession. Cheap money is nice but not if there are fewer opportunities to invest it profitably. There is a recession coming, there always is, even from the day an expansion begins. Proponents of the "inverted yield curve" (pick the rates to support your position) say a recession follows in 18-24 months, so enjoy the good times till then!

The economy is now entering the pre-election fog that will produce many unrealistic but attractive promises, more government spending, and likely continued reductions in interest rates. The Federal Reserve will continue to respond to Wall Street wishes and money will continue to flood our bond markets from an underperforming "rest of the world." Virtually all except the Fed will be happy with low inflation. A rule of thumb definition of a recession is back-to-back quarters with negative GDP growth. The third quarter will definitely be positive, leaving only Q4 and the first three quarters of 2020 to experience a recession. Consumer spending has been strong and will likely carry though into 2020. Main Street is doing well. So the odds of a recession before the election are slim. Time is running out for those rooting for a recession. But they should be reminded that recessions hurt lots of people, not just decide election outcomes.

OVERVIEW - SMALL BUSINESS OPTIMISM

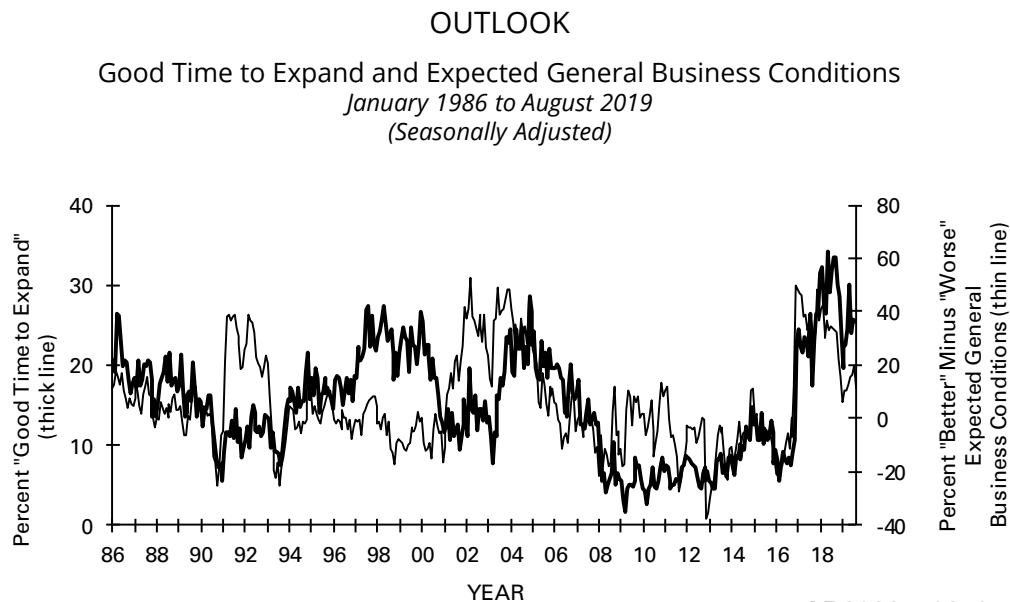


OPTIMISM INDEX

Based on Ten Survey Indicators
(Seasonally Adjusted 1986=100)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	94.0	91.6	94.0	94.8	96.2	95.4	96.0	95.9	95.3	96.0	97.8	100.3
2015	97.7	98.1	95.7	96.5	97.9	94.6	95.7	95.7	96.0	96.0	94.5	95.2
2016	93.9	92.9	92.6	93.6	93.8	94.5	94.6	94.4	94.1	94.9	98.4	105.8
2017	105.9	105.3	104.7	104.5	104.5	103.6	105.2	105.3	103.0	103.8	107.5	104.9
2018	106.9	107.6	104.7	104.8	107.8	107.2	107.9	108.8	107.9	107.4	104.8	104.4
2019	101.2	101.7	101.8	103.5	105.0	103.3	104.7	103.1				

SMALL BUSINESS OUTLOOK



SMALL BUSINESS OUTLOOK (CONTINUED)

OUTLOOK FOR EXPANSION

Percent Next Three Months "Good Time to Expand"
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	8	6	9	9	10	8	10	10	12	11	11	15
2015	13	13	11	11	14	10	12	11	11	13	12	8
2016	10	8	6	8	9	8	8	9	7	9	11	23
2017	25	22	22	24	23	21	23	27	17	23	27	27
2018	32	32	28	27	34	29	32	34	33	30	29	24
2019	20	22	23	25	30	24	26	26				

MOST IMPORTANT REASON FOR EXPANSION OUTLOOK

Reason Percent by Expansion Outlook
August 2019

Reason	Good Time	Not Good Time	Uncertain
Economic Conditions	16	7	10
Sales Prospects	4	4	5
Fin. & Interest Rates	2	0	2
Cost of Expansion	0	5	8
Political Climate	2	7	14
Other/Not Available	1	6	6

OUTLOOK FOR GENERAL BUSINESS CONDITIONS

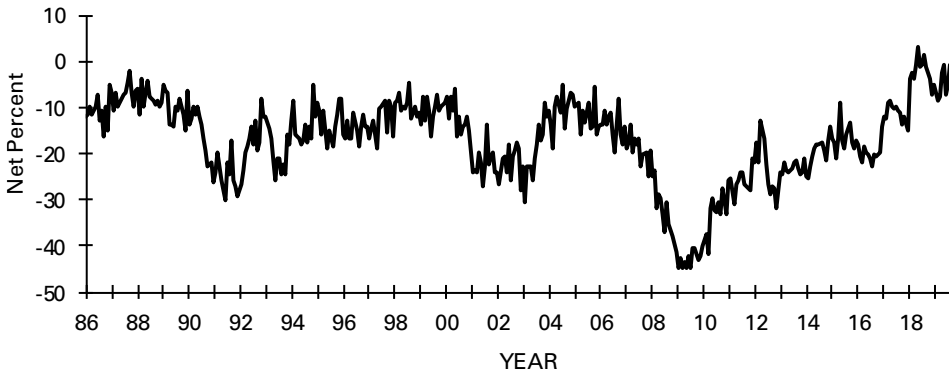
Net Percent ("Better" Minus "Worse") Six Months From Now
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	-11	-16	-13	-8	-1	-9	-5	-5	-4	-5	10	12
2015	0	2	-2	-5	-4	-8	-3	-8	-6	-6	-10	-15
2016	-21	-21	-17	-18	-13	-9	-5	-12	0	-7	12	50
2017	48	47	46	38	39	33	37	37	31	32	48	37
2018	41	43	32	30	37	33	35	34	33	33	22	16
2019	6	11	11	13	16	16	20	12				

SMALL BUSINESS EARNINGS

EARNINGS

Actual Last Three Months
January 1986 to August 2019
(Seasonally Adjusted)



ACTUAL EARNINGS CHANGES

Net Percent ("Higher" Minus "Lower") Last Three Months
Compared to Prior Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	-25	-26	-23	-21	-19	-18	-18	-18	-19	-22	-17	-14
2015	-17	-18	-21	-17	-9	-17	-19	-16	-13	-18	-19	-17
2016	-18	-21	-22	-19	-20	-20	-21	-23	-20	-21	-20	-14
2017	-12	-13	-9	-9	-10	-10	-10	-11	-11	-14	-12	-15
2018	-4	-3	-4	-1	3	-1	-1	1	-1	-3	-4	-7
2019	-5	-9	-8	-3	-1	-7	-5	-1				

MOST IMPORTANT REASON FOR LOWER EARNINGS

Percent Reason
August 2019

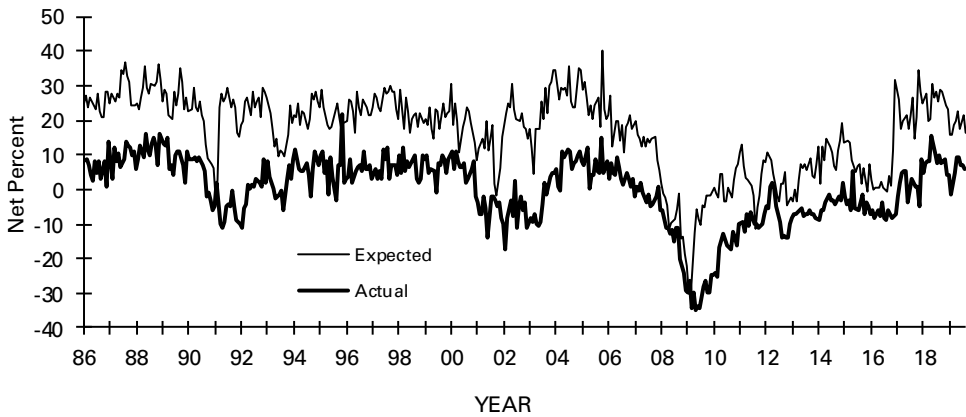
	Current Month	One Year Ago	Two Years Ago
Sales Volume	7	6	10
Increased Costs*	7	7	8
Cut Selling Prices	2	2	3
Usual Seasonal Change	3	3	4
Other	1	3	2

* Increased costs include labor, materials, finance, taxes, and regulatory costs.

SMALL BUSINESS SALES

SALES

Actual (Prior Three Months) and Expected (Next Three Months)
January 1986 to August 2019
(Seasonally Adjusted)



ACTUAL SALES CHANGES

Net Percent ("Higher" Minus "Lower") Last Three Months
Compared to Prior Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	-9	-6	-6	-4	-3	-2	-3	-3	-4	-2	-3	2
2015	-2	-4	-3	-6	5	-6	-6	-4	-1	-7	-4	-5
2016	-7	-6	-8	-6	-8	-4	-8	-9	-6	-7	-8	-7
2017	-2	2	5	5	5	-4	0	3	1	1	-5	9
2018	5	8	8	8	15	10	8	10	8	8	9	4
2019	4	-1	5	9	9	7	7	6				

SALES EXPECTATIONS

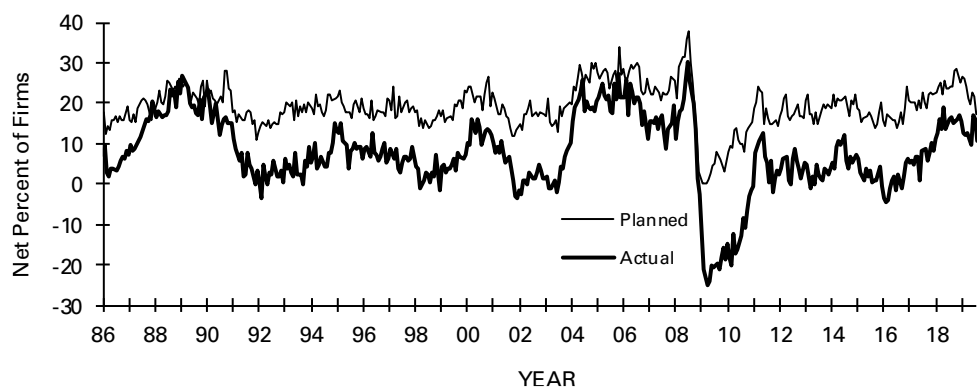
Net Percent ("Higher" Minus "Lower") During Next Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	13	2	13	9	15	12	11	7	6	11	14	19
2015	14	14	14	9	7	5	7	8	2	6	-1	7
2016	3	0	1	1	1	2	1	-1	4	1	11	31
2017	29	26	18	20	22	17	22	27	15	21	34	28
2018	25	28	20	21	31	26	29	26	29	28	24	23
2019	16	16	19	20	23	17	22	17				

SMALL BUSINESS PRICES

PRICES

Actual Last Three Months and Planned Next Three Months
January 1986 to August 2019
(Seasonally Adjusted)



ACTUAL PRICE CHANGES

Net Percent ("Higher" Minus "Lower")
Compared to Three Months Ago
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	5	4	9	11	10	11	12	6	4	7	5	7
2015	6	3	2	1	4	2	3	1	1	1	4	-1
2016	-4	-4	-4	-1	1	2	-2	3	-1	2	5	6
2017	5	6	5	7	7	1	8	9	6	8	10	8
2018	11	13	16	14	19	14	16	17	15	16	16	17
2019	15	13	12	13	10	17	16	11				

PRICE PLANS

Net Percent ("Higher" Minus "Lower") in the Next Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	19	22	19	21	21	21	22	19	17	21	20	22
2015	19	18	15	16	17	18	17	15	14	15	18	20
2016	16	14	17	16	16	16	14	15	18	15	19	24
2017	21	20	20	18	21	19	23	20	19	22	23	22
2018	23	24	25	22	26	24	24	24	24	28	29	25
2019	27	26	24	21	20	23	22	17				

SMALL BUSINESS EMPLOYMENT

ACTUAL EMPLOYMENT CHANGES

Net Percent ("Increase" Minus "Decrease") in the Last Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	2	2	2	2	1	1	1	0	3	1	1	7
2015	5	4	2	2	4	0	0	6	5	0	0	-1
2016	1	-3	0	-1	-1	-2	-2	-3	3	0	-2	4
2017	3	4	2	4	5	-1	2	2	-1	3	2	3
2018	4	4	4	7	7	3	6	5	1	5	5	5
2019	7	9	12	7	9	5	3	5				

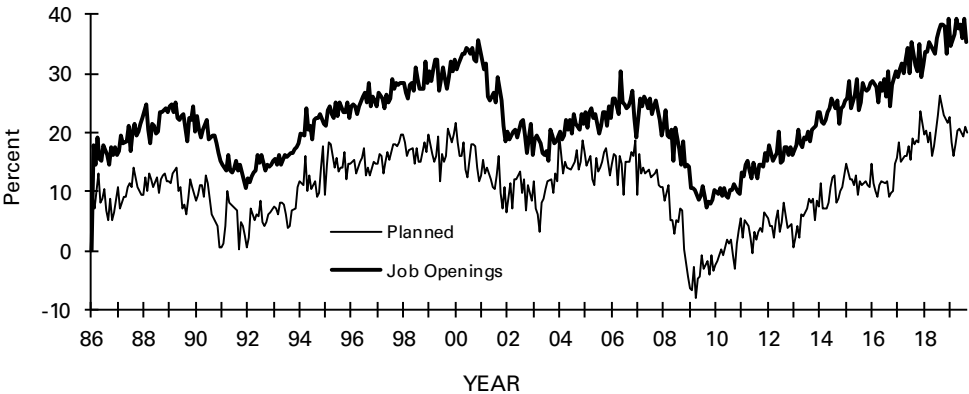
QUALIFIED APPLICANTS FOR JOB OPENINGS

Percent Few or No Qualified Applicants

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	38	40	41	41	46	43	42	46	42	45	45	43
2015	42	47	42	44	47	44	48	48	45	48	47	48
2016	45	42	41	46	48	48	46	48	48	48	52	44
2017	47	44	45	48	51	46	52	52	49	52	44	54
2018	49	47	47	50	48	55	52	55	53	53	53	54
2019	49	49	54	49	54	50	56	57				

EMPLOYMENT

Planned Next Three Months and Current Job Openings
January 1986 to August 2019
(Seasonally Adjusted)



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SMALL BUSINESS EMPLOYMENT (CONTINUED)

JOB OPENINGS

Percent With Positions Not Able to Fill Right Now
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	22	22	22	24	24	26	24	25	21	24	25	25
2015	26	29	24	27	29	24	25	28	27	27	28	28
2016	29	28	25	29	27	29	26	30	24	28	31	29
2017	31	32	30	33	34	30	35	31	30	35	30	31
2018	34	34	35	35	33	36	37	38	38	38	34	39
2019	35	37	39	38	38	36	39	35				

HIRING PLANS

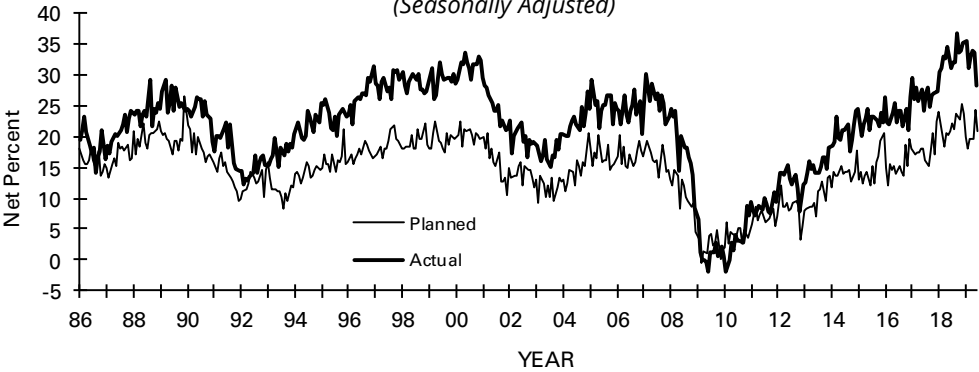
Net Percent ("Increase" Minus "Decrease") in the Next Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	11	7	7	8	11	12	13	8	9	10	11	15
2015	13	12	12	11	13	9	12	11	12	11	11	15
2016	11	10	9	11	12	11	12	9	10	10	15	16
2017	18	15	16	16	18	15	19	18	19	18	24	20
2018	20	18	20	16	18	20	23	26	23	22	22	23
2019	18	16	18	20	21	20	21	20				

SMALL BUSINESS COMPENSATION

COMPENSATION

Actual Last Three Months and Planned Next Three Months
January 1986 to August 2019
(Seasonally Adjusted)



SMALL BUSINESS COMPENSATION (CONTINUED)

ACTUAL COMPENSATION CHANGES

Net Percent ("Increase" Minus "Decrease") During Last Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	19	19	23	20	20	21	21	22	18	20	22	24
2015	25	20	22	23	25	21	23	23	23	22	24	22
2016	27	22	22	24	26	22	24	24	22	25	21	26
2017	30	26	28	26	28	24	27	28	25	27	27	27
2018	31	31	33	33	35	31	32	32	37	34	34	35
2019	36	31	33	34	34	28	32	29				

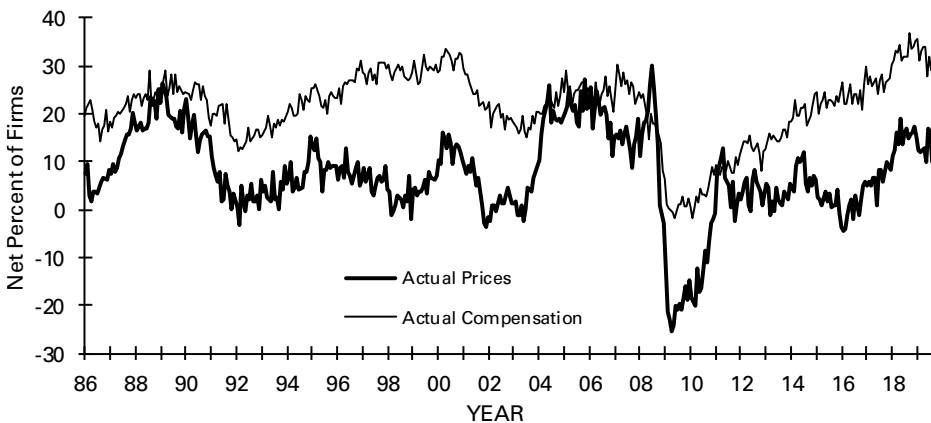
COMPENSATION PLANS

Net Percent ("Increase" Minus "Decrease") in the Next Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	12	14	14	14	15	14	14	14	15	13	14	18
2015	13	14	13	14	14	12	15	12	16	17	19	21
2016	15	12	16	15	15	14	15	14	14	19	15	20
2017	18	17	18	18	18	18	16	15	18	21	17	23
2018	24	22	19	21	20	21	22	21	24	23	25	24
2019	20	18	20	20	24	21	17	19				

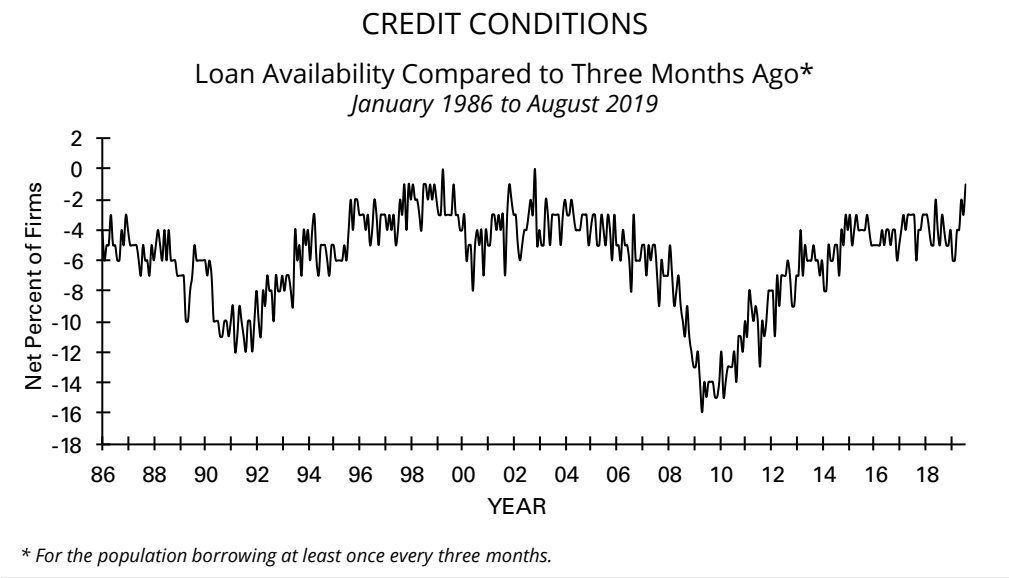
PRICES AND LABOR COMPENSATION

Net Percent Price Increase and Net Percent Compensation
(Seasonally Adjusted)



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SMALL BUSINESS CREDIT CONDITIONS



REGULAR BORROWERS

Percent Borrowing at Least Once Every Three Months

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	31	30	31	30	31	28	30	29	31	28	33	31
2015	33	30	32	30	29	31	30	33	29	28	27	31
2016	33	31	32	29	29	29	28	29	32	28	31	30
2017	30	31	30	31	28	27	30	31	29	30	30	34
2018	31	31	32	31	34	28	32	32	29	32	32	35
2019	33	33	34	31	31	28	28	33				

AVAILABILITY OF LOANS

Net Percent ("Easier" Minus "Harder")
Compared to Three Months Ago
(Regular Borrowers)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	-6	-8	-8	-5	-6	-6	-5	-5	-7	-4	-5	-3
2015	-4	-3	-5	-4	-3	-4	-4	-4	-4	-3	-4	-5
2016	-5	-5	-5	-5	-4	-5	-4	-4	-5	-4	-4	-6
2017	-5	-4	-3	-4	-3	-3	-3	-3	-6	-4	-4	-3
2018	-3	-3	-4	-5	-5	-2	-4	-5	-3	-4	-5	-5
2019	-4	-6	-6	-4	-4	-2	-3	-1				

SMALL BUSINESS CREDIT CONDITIONS (CONTINUED)

BORROWING NEEDS SATISFIED

Percent of All Businesses Last Three Months Satisfied/
Percent of All Businesses Last Three Months Not Satisfied
(All Borrowers)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	31/5	29/5	30/5	30/5	30/5	27/6	30/6	28/4	28/6	29/4	29/4	32/4
2015	32/4	33/3	35/5	31/4	30/4	32/5	32/4	33/3	30/2	30/3	32/3	32/4
2016	35/3	31/4	31/5	31/4	31/4	32/5	30/3	29/4	32/6	29/4	30/4	29/4
2017	31/4	30/3	32/4	32/3	31/3	27/4	31/3	34/3	33/2	29/4	32/4	32/3
2018	31/3	32/2	31/4	32/4	37/4	30/3	32/3	33/3	27/3	30/3	32/3	32/4
2019	33/3	34/3	33/3	32/4	34/3	29/3	28/3	31/4				

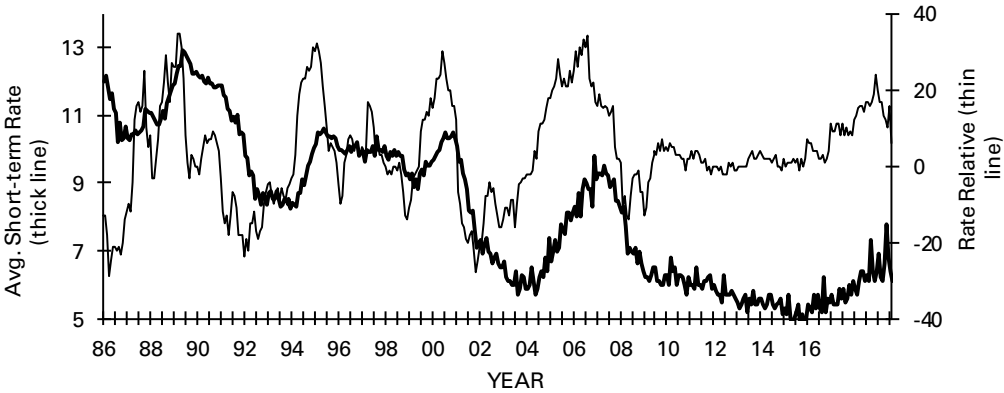
EXPECTED CREDIT CONDITIONS

Net Percent ("Easier" Minus "Harder") During Next Three Months
(Regular Borrowers)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	-7	-7	-7	-6	-7	-7	-5	-5	-7	-5	-6	-5
2015	-5	-4	-6	-4	-4	-4	-5	-7	-6	-5	-4	-6
2016	-7	-7	-6	-6	-6	-6	-5	-5	-7	-6	-5	-6
2017	-3	-3	-3	-4	-4	-3	-4	-3	-4	-5	-4	-4
2018	-4	-3	-6	-6	-5	-4	-4	-6	-5	-5	-5	-6
2019	-5	-5	-7	-4	-5	-3	-4	-2				

INTEREST RATES

Relative Rates and Actual Rates Last Three Months
January 1986 to August 2019



SMALL BUSINESS CREDIT CONDITIONS (CONTINUED)

RELATIVE INTEREST RATE PAID BY
REGULAR BORROWERS

Net Percent ("Higher" Minus "Lower") Compared to Three Months Ago

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	4	3	2	2	2	2	1	2	3	0	0	-1
2015	2	0	1	1	1	2	1	2	-1	2	0	2
2016	7	6	6	4	4	4	2	2	3	1	2	4
2017	11	9	9	11	11	8	11	8	10	8	9	8
2018	12	13	15	16	16	14	17	17	16	17	19	24
2019	20	17	17	13	12	10	16	6				

Borrowing at Least Once Every Three Months.

ACTUAL INTEREST RATE PAID ON
SHORT-TERM LOANS BY BORROWERS

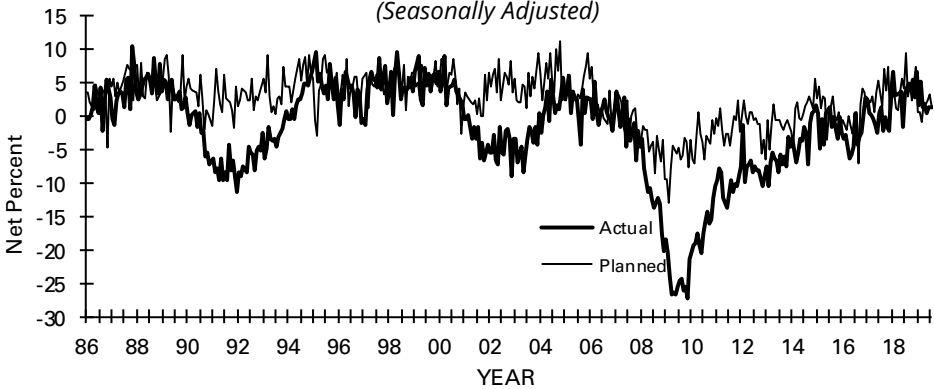
Average Interest Rate Paid

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	5.6	5.4	5.3	5.4	5.7	5.7	5.4	5.3	5.4	5.5	5.6	5.1
2015	5.3	5.1	5.7	5.0	4.8	5.0	5.2	5.4	4.8	5.1	4.7	5.0
2016	5.4	5.3	5.2	5.7	5.3	5.7	5.3	5.2	6.2	5.2	5.6	5.5
2017	5.7	5.4	5.4	5.4	5.9	5.6	5.9	5.5	5.6	6.0	5.7	6.1
2018	5.9	5.7	6.1	6.4	6.4	6.1	6.3	6.1	7.3	6.4	6.1	6.4
2019	6.9	6.2	6.1	6.7	7.8	6.8	6.4	6.1				

SMALL BUSINESS INVENTORIES

INVENTORIES

Actual (Last Three Months) and Planned (Next Three Months)
January 1986 to August 2019
(Seasonally Adjusted)



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SMALL BUSINESS INVENTORIES (CONTINUED)

ACTUAL INVENTORY CHANGES

Net Percent ("Increase" Minus "Decrease") During Last Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	-4	-3	-7	-6	-3	-4	-2	-3	-7	-1	1	1
2015	2	1	-5	-1	-4	0	2	-2	0	-2	-4	0
2016	-2	-3	-3	-5	-6	-6	-5	0	-4	-3	-3	3
2017	3	1	0	-1	-1	-3	1	1	-2	0	-2	-2
2018	4	7	3	4	4	-2	4	4	5	4	6	3
2019	7	2	5	2	2	0	2	1				

INVENTORY SATISFACTION

Net Percent ("Too Low" Minus "Too Large") at Present Time
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	-2	-5	-2	-2	-3	-2	-3	-2	0	-3	-2	-2
2015	-1	-3	-7	-2	-1	-4	-6	-6	-5	-4	-5	-4
2016	-2	-2	-5	-5	-4	-4	-4	-2	-7	-4	-4	-3
2017	-5	-2	-5	-3	-6	-3	-2	-5	-3	-5	-2	-2
2018	-5	-3	-6	-4	-4	0	-3	-3	-1	-2	-5	-1
2019	-3	-2	-6	-4	-4	0	-3	-6				

INVENTORY PLANS

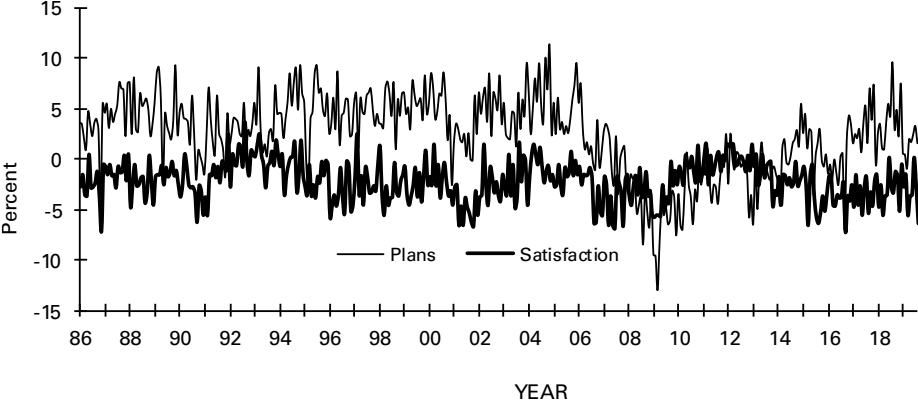
Net Percent ("Increase" Minus "Decrease") in the Next Three to Six Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	-2	-5	1	2	0	-1	0	2	2	3	1	6
2015	3	5	1	3	3	-4	0	2	3	0	-1	1
2016	-1	-1	-2	0	-1	-3	0	1	-7	2	4	4
2017	2	3	2	3	1	4	5	2	7	4	7	-1
2018	3	4	1	1	4	6	4	10	3	5	2	8
2019	1	1	-1	2	2	3	3	2				

SMALL BUSINESS CAPITAL OUTLAYS

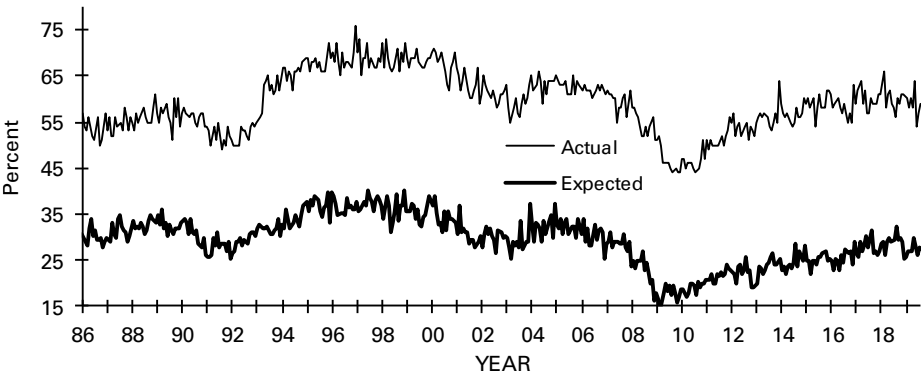
INVENTORY SATISFACTION AND INVENTORY PLANS

Net Percent (“Too Low” Minus “Too Large”) at Present Time
Net Percent Planning to Add Inventories in the Next Three to Six Months
(Seasonally Adjusted)



CAPITAL EXPENDITURES

Actual Last Six Months and Planned Next Three Months
January 1986 to August 2019
(Seasonally Adjusted)



ACTUAL CAPITAL EXPENDITURES

Percent Making a Capital Expenditure During the Last Six Months

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	59	57	56	57	55	54	55	58	56	56	57	60
2015	59	60	58	60	54	58	61	58	58	58	62	62
2016	61	58	59	60	58	57	59	57	55	57	55	63
2017	59	62	64	59	62	57	57	60	59	59	59	61
2018	61	66	58	61	62	59	58	56	60	59	61	61
2019	60	58	60	58	64	54	57	59				

SMALL BUSINESS CAPITAL OUTLAYS (CONTINUED)

TYPE OF CAPITAL EXPENDITURES MADE
Percent Purchasing or Leasing During Last Six Months

Type	Current	One Year Ago	Two Years Ago
Vehicles	24	22	24
Equipment	42	39	42
Furniture or Fixtures	15	15	9
Add. Bldgs. or Land	4	6	7
Improved Bldgs. or Land	18	18	16

AMOUNT OF CAPITAL EXPENDITURES MADE
Percent Distribution of Per Firm Expenditures
During the Last Six Months

Amount	Current	One Year Ago	Two Years Ago
\$1 to \$999	3	1	2
\$1,000 to \$4,999	8	7	7
\$5,000 to \$9,999	7	5	6
\$10,000 to \$49,999	18	20	22
\$50,000 to \$99,999	10	10	8
\$100,000 +	13	13	14
No Answer	0	0	1

CAPITAL EXPENDITURE PLANS
Percent Planning a Capital Expenditure During Next Three to Six Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	23	24	22	24	24	23	25	29	24	27	25	28
2015	25	25	22	25	25	24	26	26	27	27	25	25
2016	25	23	25	25	23	26	25	28	27	27	24	29
2017	27	26	29	27	28	30	28	32	27	27	26	27
2018	29	29	26	29	30	29	30	33	30	30	29	25
2019	26	27	27	27	30	26	28	28				

SINGLE MOST IMPORTANT PROBLEM

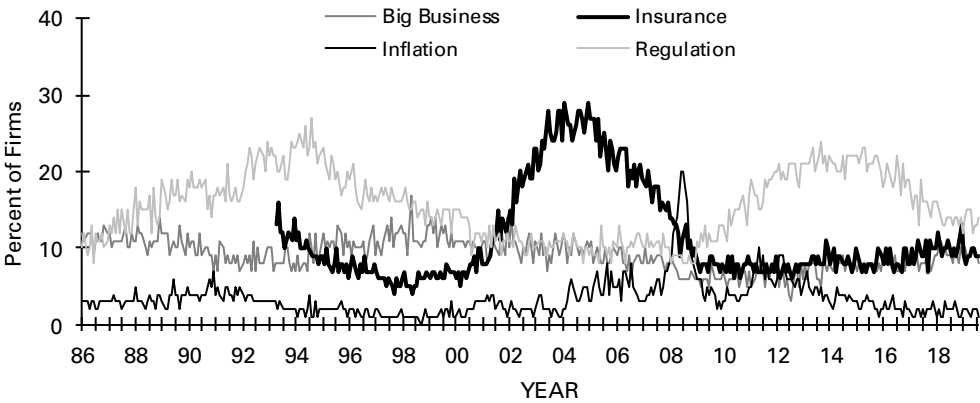
SINGLE MOST IMPORTANT PROBLEM

August 2019

Problem	Current	One Year Ago	Survey High	Survey Low
Taxes	14	15	32	8
Inflation	1	2	41	0
Poor Sales	9	7	34	2
Fin. & Interest Rates	2	2	37	1
Cost of Labor	9	8	10	2
Govt. Regs. & Red Tape	14	13	27	4
Comp. From Large Bus.	8	8	14	4
Quality of Labor	27	25	27	3
Cost/Avail. of Insurance	9	9	29	4
Other	7	11	31	1

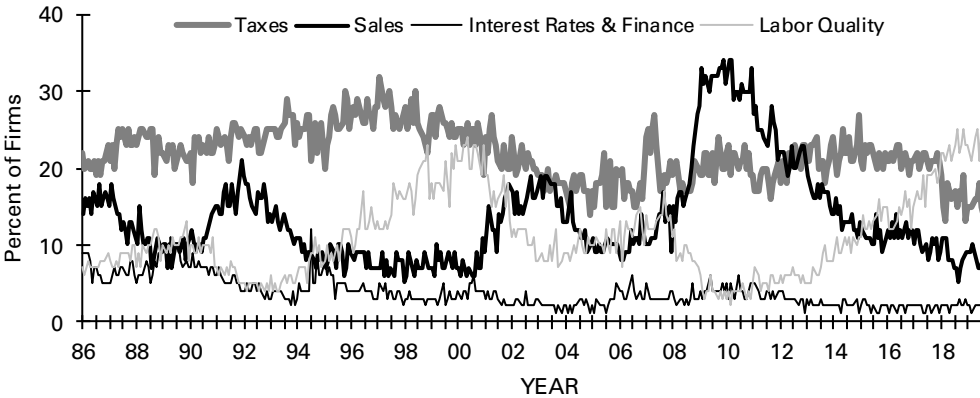
SELECTED SINGLE MOST IMPORTANT PROBLEM

Inflation, Big Business, Insurance and Regulation
January 1986 to August 2019



SELECTED SINGLE MOST IMPORTANT PROBLEM

Taxes, Interest Rates, Sales and Labor Quality
January 1986 to August 2019



SURVEY PROFILE

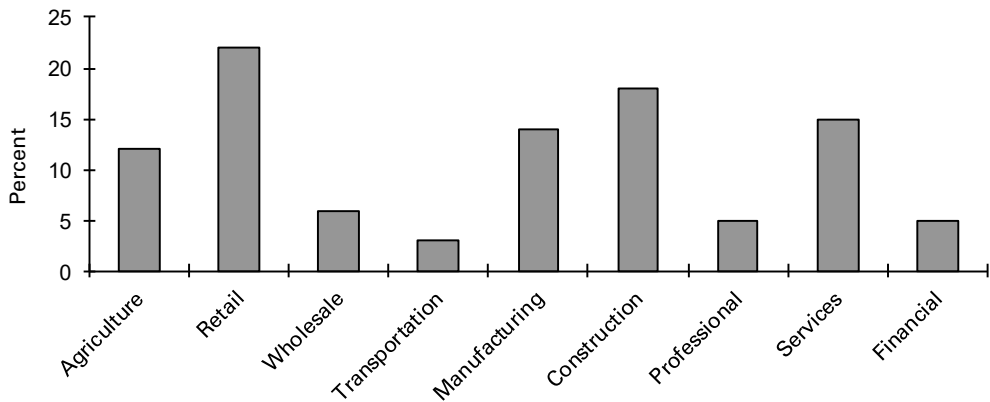
OWNER/MEMBERS PARTICIPATING IN
ECONOMIC SURVEY NFIB

Actual Number of Firms

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2014	1864	792	685	1699	678	672	1645	598	608	1502	615	568
2015	1663	716	575	1500	616	620	1495	656	556	1411	601	509
2016	1438	756	727	1644	700	735	1703	730	723	1702	724	619
2017	1873	764	704	1618	699	624	1533	713	629	1513	544	495
2018	1658	642	570	1554	562	665	1718	680	642	1743	700	621
2019	1740	526	643	1735	650	606	1502	680				

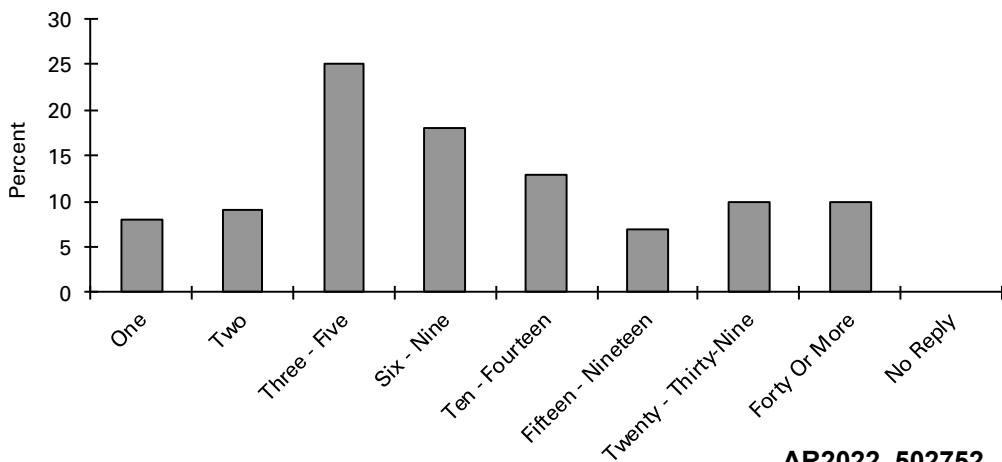
NFIB OWNER/MEMBERS PARTICIPATING
IN ECONOMIC SURVEY

Industry of Small Business



NFIB OWNER/MEMBERS PARTICIPATING
IN ECONOMIC SURVEY

Number of Full and Part-Time Employees



NFIB RESEARCH CENTER SMALL BUSINESS ECONOMIC SURVEY

SMALL BUSINESS SURVEY QUESTIONS	PAGE IN REPORT
Do you think the next three months will be a good time for small business to expand substantially? Why?	4
About the economy in general, do you think that six months from now general business conditions will be better than they are now, about the same, or worse?	5
Were your net earnings or "income" (after taxes) from your business during the last calendar quarter higher, lower, or about the same as they were for the quarter before?	6
If higher or lower, what is the most important reason?	6
During the last calendar quarter, was your dollar sales volume higher, lower, or about the same as it was for the quarter before?	7
Overall, what do you expect to happen to real volume (number of units) of goods and/or services that you will sell during the next three months?	7
How are your average selling prices compared to three months ago?	8
In the next three months, do you plan to change the average selling prices of your goods and/or services?	8
During the last three months, did the total number of employees in your firm increase, decrease, or stay about the same?	9
If you have filled or attempted to fill any job openings in the past three months, how many qualified applicants were there for the position(s)?	9
Do you have any job openings that you are not able to fill right now?	10
In the next three months, do you expect to increase or decrease the total number of people working for you?	10
Over the past three months, did you change the average employee compensation?	11
Do you plan to change average employee compensation during the next three months?	11

SMALL BUSINESS SURVEY QUESTIONS	PAGE IN REPORT
Are...loans easier or harder to get than they were three months ago?	12
During the last three months, was your firm able to satisfy its borrowing needs?	13
Do you expect to find it easier or harder to obtain your required financing during the next three months?	13
If you borrow money regularly (at least once every three months) as part of your business activity, how does the rate of interest payable on your most recent loan compare with that paid three months ago?	14
If you borrowed within the last three months for business purposes, and the loan maturity (pay back period) was 1 year or less, what interest rate did you pay?	14
During the last three months, did you increase or decrease your inventories?	15
At the present time, do you feel your inventories are too large, about right, or inadequate?	15
Looking ahead to the next three months to six months, do you expect, on balance, to add to your inventories, keep them about the same, or decrease them?	15
During the last six months, has your firm made any capital expenditures to improve or purchase equipment, buildings, or land?	16
If [your firm made any capital expenditures], what was the total cost of all these projects?	17
Looking ahead to the next three to six months, do you expect to make any capital expenditures for plant and/or physical equipment?	17
What is the single most important problem facing your business today?	18
Please classify your major business activity, using one of the categories of example below	19
How many employees do you have full and part-time, including yourself?	19

OCTOBER
2021

NFIB

SMALL BUSINESS
ECONOMIC
TRENDS

William C. Dunkelberg
Holly Wade

SMALL BUSINESS OPTIMISM INDEX COMPONENTS

Index Component	Seasonally Adjusted Level	Change from Last Month	Contribution to Index Change
Plans to Increase Employment	26%	0	*
Plans to Make Capital Outlays	31%	3	*
Plans to Increase Inventories	8%	-1	*
Expect Economy to Improve	-37%	-4	*
Expect Real Sales Higher	0%	-2	*
Current Inventory	9%	-1	*
Current Job Openings	49%	-2	*
Expected Credit Conditions	-4%	0	*
Now a Good Time to Expand	10%	-1	*
Earnings Trends	-17%	-3	*
Total Change		-11	

Based on a Survey of Small and Independent Business Owners

AR2022_502755

NFIB
SMALL BUSINESS
ECONOMIC TRENDS

NFIB Research Center has collected Small Business Economic Trends Data with Quarterly surveys since 1973 and monthly surveys since 1986. The sample is drawn from the membership files of the National Federation of Independent Business (NFIB). Each was mailed a questionnaire and one reminder. Subscriptions for twelve monthly SBET issues are \$250. Historical and unadjusted data are available, along with a copy of the questionnaire, from the NFIB Research Center. You may reproduce Small Business Economic Trends items if you cite the publication name and date and note it is a copyright of the NFIB Research Center. © NFIB Research Center. ISBS #0940791-24-2. Chief Economist William C. Dunkelberg and Executive Director of the NFIB Research Center Holly Wade are responsible for the report.

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SUMMARY

OPTIMISM INDEX

The Optimism Index decreased slightly in October by 0.9 points to 98.2. One of the 10 Index components improved, seven declined, and two were unchanged. The NFIB Uncertainty Index decreased 7 points to 67. Owners expecting better business conditions over the next six months decreased 4 points to a net negative 37 percent. Owners have grown pessimistic about future economic conditions as this indicator has declined 17 points over the past three months to its lowest reading since November 2012. Forty-nine percent of owners reported job openings that could not be filled, a decrease of 2 points from September. The competition for workers is making it harder to hire.

LABOR MARKETS

Forty-nine percent (seasonally adjusted) of all owners reported job openings they could not fill in the current period, down 2 points from September. The number of unfilled job openings remains far above the 48-year historical average of 22 percent. Forty-two percent have openings for skilled workers (down 4 points) and 24 percent have openings for unskilled labor (down 4 points). Fifty-nine percent of the job openings in construction are for skilled workers, down 8 points. Sixty-five percent of construction firms reported few or no qualified applicants (down 15 points). Although it is clear that there is still a “shortage” of workers, the declines hint at an easing of conditions in the labor markets. Overall, 62 percent reported hiring or trying to hire in October, down 5 points from September. Owners’ plans to fill open positions remain at record high levels, with a seasonally adjusted net 26 percent planning to create new jobs in the next three months, unchanged. Up to now, it has become increasingly harder to hire, as shown by the continued increases in job openings, reports of higher wages, and reports of few or no qualified applicants. Finding qualified employees remains a problem. Fifty-eight percent (94 percent of those hiring or trying to hire) of owners reported few or no qualified applicants for the positions they were trying to fill (up 4 points). Thirty-three percent of owners reported few qualified applicants for their open positions (down 1 point) and 25 percent reported none (down 3 points).

CAPITAL SPENDING

Fifty-six percent reported capital outlays in the last six months, up 3 points from September. A recovery in investment will be needed to spark an improvement in productivity, but this is unlikely to occur while owners remain pessimistic about future business conditions. Of those making expenditures, 40 percent reported spending on new equipment (down 3 points), 24 percent acquired vehicles (up 3 points), and 14 percent improved or expanded facilities (up 2 points). Seven percent acquired new buildings or land for expansion (up 1 point) and 12 percent spent money for new fixtures and furniture (up 2 points). Thirty-one percent plan capital outlays in the next few months, up 3 points from September and 2 points above the 48-year average. However, capital spending is still anemic relative to the recent growth in the economy.

SALES AND INVENTORIES

A net negative 4 percent of all owners (seasonally adjusted) reported higher nominal sales in the past three months, down 7 points from September. The net percent of owners expecting higher real sales volumes decreased by 2 points to a net 0 percent. The net percent of owners reporting inventory increases decreased 3 points to a net 0 percent. Thirty-nine percent of owners report that supply chain disruptions have had a significant impact on their business. Another 29 percent report a moderate impact and 21 percent report a mild impact. Only 10 percent report no impact from recent supply chain disruptions. A net 9 percent of owners viewed current inventory stocks as “too low” in October, down 1 point from September and near a record high level. A net 8 percent of owners plan inventory investment in the coming months, down 1 point from September.

COMPENSATION AND EARNINGS

Seasonally adjusted, a net 44 percent reported raising compensation. A net 32 percent plan to raise compensation in the next three months, up 2 points from September’s record high reading. Ten percent cited labor costs as their top business problem (down 2 points) and 24 percent said that labor quality was their top business problem (down 4 points). The frequency of reports of positive profit trends decreased 3 points to a net negative 17 percent. Among owners reporting lower profits, 31 percent blamed the rise in the cost of materials, 25 percent blamed weaker sales, 9 percent cited labor costs, 9 percent cited the usual seasonal change, 6 percent cited lower prices, and 3 percent cited higher taxes or regulatory costs. For owners reporting higher profits, 56 percent credited sales volumes, 17 percent cited usual seasonal change, and 11 percent cited higher prices.

CREDIT MARKETS

Two percent of owners reported that all their borrowing needs were not satisfied (unchanged). Twenty-three percent reported all credit needs met (up 3 points) and 63 percent said they were not interested in a loan (up 1 point). A net 2 percent reported their last loan was harder to get than in previous attempts (down 2 points). One percent reported that financing was their top business problem (up 1 point). A net 2 percent of owners reported paying a higher rate on their most recent loan. The average rate paid on short maturity loans was 5.0 percent, down 0.6 points from September. Twenty-three percent of all owners reported borrowing on a regular basis (up 3 points).

INFLATION

The net percent of owners raising average selling prices increased 7 points to a net 53 percent seasonally adjusted. Price raising activity has reached levels not seen since the early 1980s when prices were rising at double digit rates. Unadjusted, 6 percent (down 2 points) reported lower average selling prices and 57 percent (up 4 points) reported higher average prices. Price hikes were most frequent in wholesale (78 percent higher, 4 percent lower), retail (72 percent higher, 4 percent lower), and construction (66 percent higher, 0 percent lower). Seasonally adjusted, a net 51 percent plan price hikes (up 5 points).

COMMENTARY

The economy grew at a disappointing 2 percent rate in the third quarter, due mostly to a weakening of consumer spending. A reduction in government support payments was the major drag, but so were supply chain issues and labor shortages. New car spending collapsed over 20 percent as dealers’ inventories shrunk due to production and distribution problems. A large share of the new homes sold have not been built yet due in part by labor shortages. With housing in short supply across much of the country, home prices have also advanced 20 percent. So, reduced government support, higher prices, and slowing job creation delivered a soft quarterly performance.

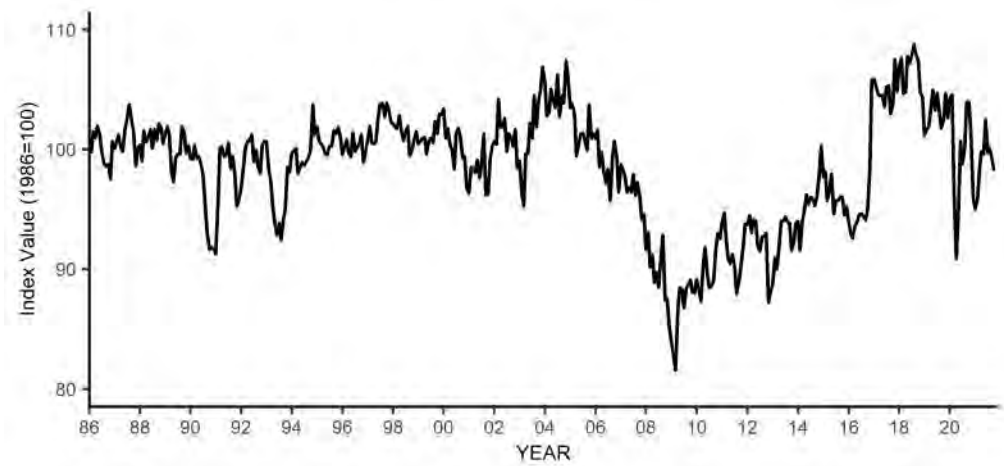
Adding to the muddle, Washington is having trouble putting its economic policies in place. Spending and tax policies are still up in the air, while debt ceiling problems loom larger each day. The Federal Reserve is also scrambling to reset policies to deal with growth and inflation numbers that it had not expected.

Small businesses are hanging on, trying to take advantage of current economic growth while remaining pessimistic about the course of business conditions in the near future. Not knowing the course of federal economic policies (e.g., taxes) makes it harder to make the investment expenditures that will be needed to raise worker productivity. Add to that the unclear course of the virus and associated government policies and owners face an economy filled with uncertainty that must be resolved to figure out the likely course of the economy.

OVERVIEW - SMALL BUSINESS OPTIMISM

OPTIMISM INDEX

Based on Ten Survey Indicators
(Seasonally Adjusted 1986=100)



OPTIMISM INDEX

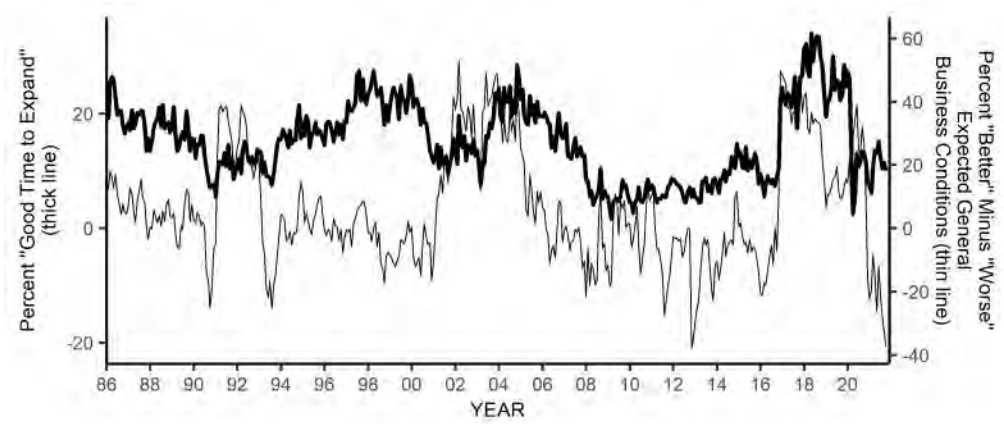
Based on Ten Survey Indicators
(Seasonally Adjusted 1986=100)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	93.9	92.9	92.6	93.6	93.8	94.5	94.6	94.4	94.1	94.9	98.4	105.8
2017	105.9	105.3	104.7	104.5	104.5	103.6	105.2	105.3	103.0	103.8	107.5	104.9
2018	106.9	107.6	104.7	104.8	107.8	107.2	107.9	108.8	107.9	107.4	104.8	104.4
2019	101.2	101.7	101.8	103.5	105.0	103.3	104.7	103.1	101.8	102.4	104.7	102.7
2020	104.3	104.5	96.4	90.9	94.4	100.6	98.8	100.2	104.0	104.0	101.4	95.9
2021	95.0	95.8	98.2	99.8	99.6	102.5	99.7	100.1	99.1	98.2		

SMALL BUSINESS OUTLOOK

OUTLOOK

Good Time to Expand and Expected General Business Conditions
January 1986 to October 2021
(Seasonally Adjusted)



SMALL BUSINESS OUTLOOK (CONTINUED)

OUTLOOK FOR EXPANSION

Percent Next Three Months "Good Time to Expand"
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	10	8	6	8	9	8	8	9	7	9	11	23
2017	25	22	22	24	23	21	23	27	17	23	27	27
2018	32	32	28	27	34	29	32	34	33	30	29	24
2019	20	22	23	25	30	24	26	26	22	23	29	25
2020	28	26	13	3	5	13	11	12	13	13	12	8
2021	8	6	11	14	13	15	13	11	11	10		

MOST IMPORTANT REASON FOR EXPANSION OUTLOOK

Reason Percent by Expansion Outlook
October 2021

Reason	Good Time	Not Good Time	Uncertain
Economic Conditions	3	27	12
Sales Prospects	3	2	1
Fin. & Interest Rates	1	0	0
Cost of Expansion	0	4	3
Political Climate	0	20	13
Other / Not Available	0	4	2

OUTLOOK FOR GENERAL BUSINESS CONDITIONS

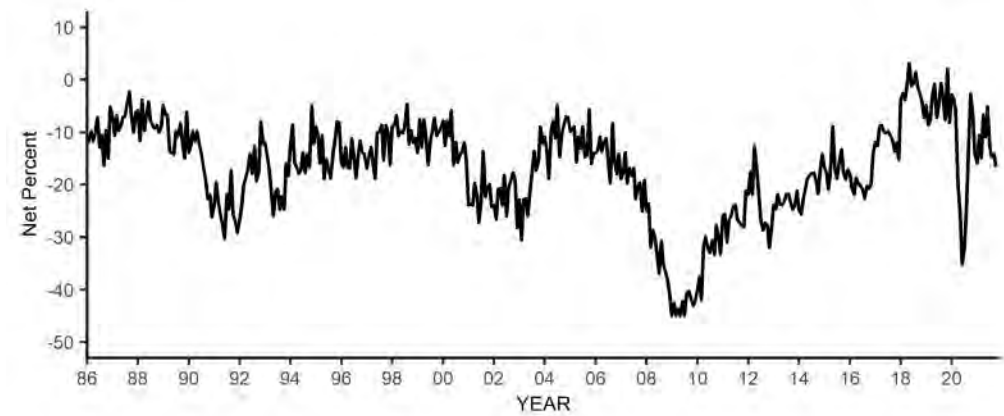
Net Percent ("Better" Minus "Worse") Six Months From Now
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	-21	-21	-17	-18	-13	-9	-5	-12	0	-7	12	50
2017	48	47	46	38	39	33	37	37	31	32	48	37
2018	41	43	32	30	37	33	35	34	33	33	22	16
2019	6	11	11	13	16	16	20	12	9	10	13	16
2020	14	22	5	29	34	39	25	24	32	27	8	-16
2021	-23	-19	-8	-15	-26	-12	-20	-28	-33	-37		

SMALL BUSINESS EARNINGS

EARNINGS

Actual Last Three Months
January 1986 to October 2021
(Seasonally Adjusted)



ACTUAL EARNINGS CHANGES

Net Percent ("Higher" Minus "Lower") Last Three Months
Compared to Prior Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	-18	-21	-22	-19	-20	-20	-21	-23	-20	-21	-20	-14
2017	-12	-13	-9	-9	-10	-10	-10	-11	-11	-14	-12	-15
2018	-4	-3	-4	-1	3	-1	-1	1	-1	-3	-4	-7
2019	-5	-9	-8	-3	-1	-7	-5	-1	-3	-8	2	-8
2020	-3	-4	-6	-20	-26	-35	-32	-25	-12	-3	-7	-14
2021	-16	-11	-15	-7	-11	-5	-13	-15	-14	-17		

MOST IMPORTANT REASON FOR LOWER EARNINGS

Percent Reason
October 2021

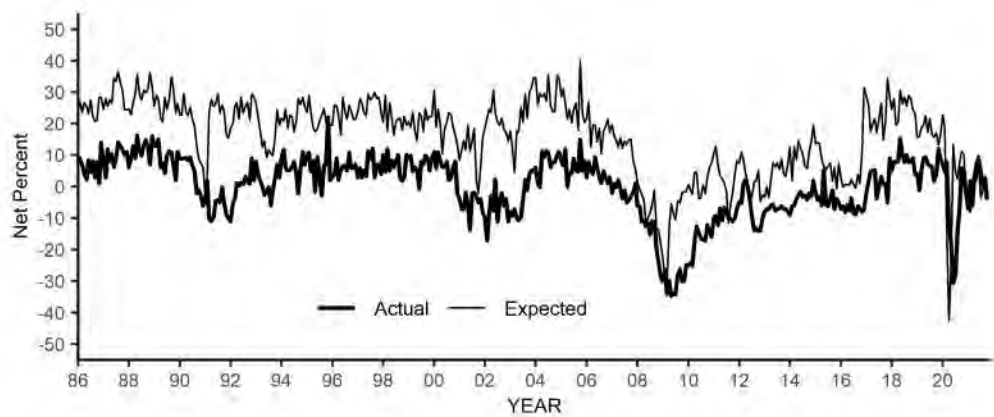
Reason	Current Month	One Year Ago	Two Years Ago
Sales Volume	8	23	7
Increased Costs*	14	4	7
Cut Selling Prices	2	3	2
Usual Seasonal Change	3	2	3
Other	2	6	2

* Increased costs include labor, materials, finance, taxes, and regulatory costs.

SMALL BUSINESS SALES

SALES

Actual (Prior Three Months) and Expected (Next Three Months)
January 1986 to October 2021
(Seasonally Adjusted)



ACTUAL SALES CHANGES

Net Percent ("Higher" Minus "Lower") Last Three Months
Compared to Prior Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	-7	-6	-8	-6	-8	-4	-8	-9	-6	-7	-8	-7
2017	-2	2	5	5	5	-4	0	3	1	1	-5	9
2018	5	8	8	8	15	10	8	10	8	8	9	4
2019	4	-1	5	9	9	7	7	6	2	4	12	9
2020	7	5	8	-11	-19	-31	-28	-15	-6	6	5	-2
2021	-7	2	-6	3	7	9	5	0	3	-4		

SALES EXPECTATIONS

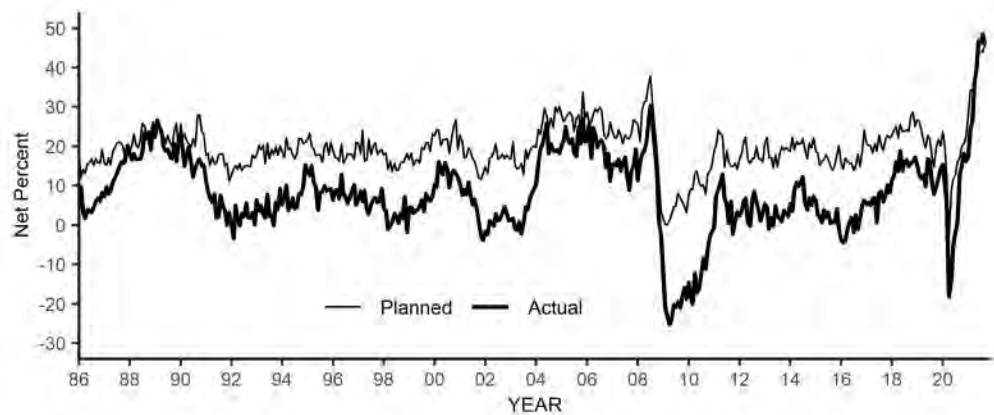
Net Percent ("Higher" Minus "Lower") During Next Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	3	0	1	1	1	2	1	-1	4	1	11	31
2017	29	26	18	20	22	17	22	27	15	21	34	28
2018	25	28	20	21	31	26	29	26	29	28	24	23
2019	16	16	19	20	23	17	22	17	16	17	13	16
2020	23	19	-12	-42	-24	13	5	3	8	11	10	-4
2021	-6	-8	0	1	3	7	-4	-2	2	0		

SMALL BUSINESS PRICES

PRICES

Actual Last Three Months and Planned Next Three Months
January 1986 to October 2021
(Seasonally Adjusted)



ACTUAL PRICE CHANGES

Net Percent ("Higher" Minus "Lower")
Compared to Three Months Ago
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	-4	-4	-4	-1	1	2	-2	3	-1	2	5	6
2017	5	6	5	7	7	1	8	9	6	8	10	8
2018	11	13	16	14	19	14	16	17	15	16	16	17
2019	15	13	12	13	10	17	16	11	8	10	12	14
2020	15	11	6	-18	-14	-5	-2	1	13	15	18	16
2021	17	25	26	36	40	47	46	49	46	53		

PRICE PLANS

Net Percent ("Higher" Minus "Lower") in the Next Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	16	14	17	16	16	16	14	15	18	15	19	24
2017	21	20	20	18	21	19	23	20	19	22	23	22
2018	23	24	25	22	26	24	24	24	24	28	29	25
2019	27	26	24	21	20	23	22	17	15	20	22	20
2020	24	20	12	-3	9	12	13	16	17	20	21	22
2021	28	34	34	36	43	44	44	44	46	51		

SMALL BUSINESS EMPLOYMENT

ACTUAL EMPLOYMENT CHANGES

Net Percent ("Increase" Minus "Decrease") in the Last Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	1	-3	0	-1	-1	-2	-2	-3	3	0	-2	4
2017	3	4	2	4	5	-1	2	2	-1	3	2	3
2018	4	4	4	7	7	3	6	5	1	5	5	5
2019	7	9	12	7	9	5	3	5	4	4	10	6
2020	9	13	8	-12	-16	-16	-11	-12	-6	-2	-2	-5
2021	0	-3	-2	1	-5	-2	-6	-8	-1	-2		

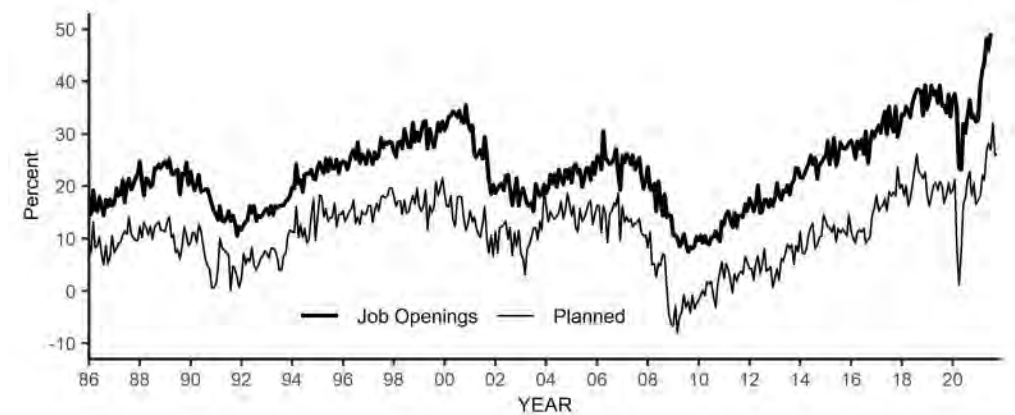
QUALIFIED APPLICANTS FOR JOB OPENINGS

Percent Few or No Qualified Applicants

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	45	42	41	46	48	48	46	48	48	48	52	44
2017	47	44	45	48	51	46	52	52	49	52	44	54
2018	49	47	47	50	48	55	52	55	53	53	53	54
2019	49	49	54	49	54	50	56	57	50	53	53	50
2020	49	52	47	41	37	43	44	46	50	48	47	48
2021	46	51	51	54	57	56	57	60	62	58		

EMPLOYMENT

Planned Next Three Months and Current Job Openings
January 1986 to October 2021
(Seasonally Adjusted)



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SMALL BUSINESS EMPLOYMENT (CONTINUED)

JOB OPENINGS

Percent With Positions Not Able to Fill Right Now
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	29	28	25	29	27	29	26	30	24	28	31	29
2017	31	32	30	33	34	30	35	31	30	35	30	31
2018	34	34	35	35	33	36	37	38	38	38	34	39
2019	35	37	39	38	38	36	39	35	35	34	38	33
2020	37	38	35	24	23	32	30	33	36	33	34	32
2021	33	40	42	44	48	46	49	50	51	49		

HIRING PLANS

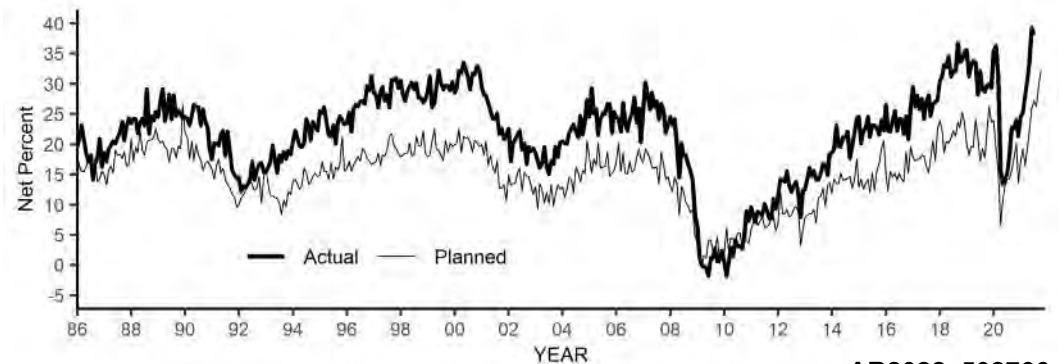
Net Percent ("Increase" Minus "Decrease") in the Next Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	11	10	9	11	12	11	12	9	10	10	15	16
2017	18	15	16	16	18	15	19	18	19	18	24	20
2018	20	18	20	16	18	20	23	26	23	22	22	23
2019	18	16	18	20	21	19	21	20	17	18	21	19
2020	19	21	9	1	8	16	18	21	23	18	21	17
2021	17	18	22	21	27	28	27	32	26	26		

SMALL BUSINESS COMPENSATION

COMPENSATION

Actual Last Three Months and Planned Next Three Months
January 1986 to October 2021
(Seasonally Adjusted)



AR2022_502766

SMALL BUSINESS COMPENSATION (CONTINUED)

ACTUAL COMPENSATION CHANGES

Net Percent ("Increase" Minus "Decrease") During Last Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	27	22	22	24	26	22	24	24	22	25	21	26
2017	30	26	28	26	28	24	27	28	25	27	27	27
2018	31	31	33	33	35	31	32	32	37	34	34	35
2019	36	31	33	34	34	28	32	29	29	30	30	29
2020	36	36	31	16	14	14	15	18	23	23	24	21
2021	25	25	28	31	34	39	38	41	42	44		

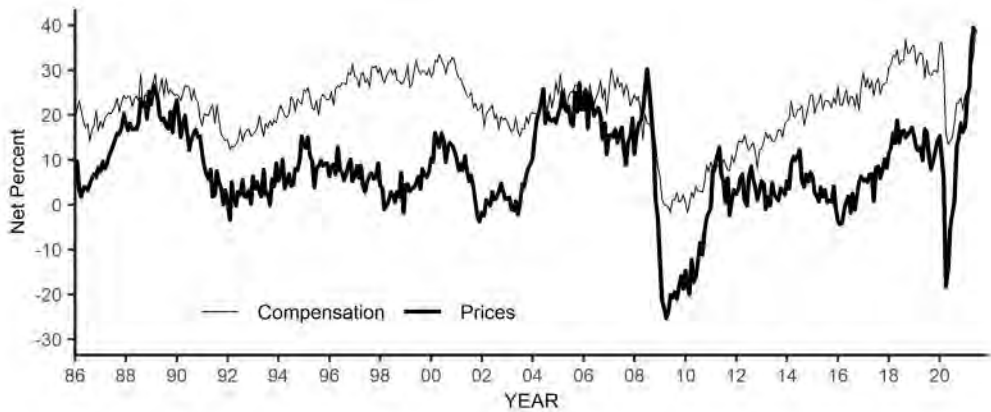
COMPENSATION PLANS

Net Percent ("Increase" Minus "Decrease") in the Next Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	15	12	16	15	15	14	15	14	14	19	15	20
2017	18	17	18	18	18	18	16	15	18	21	17	23
2018	24	22	19	21	20	21	22	21	24	23	25	24
2019	20	18	20	20	24	21	17	19	18	22	26	24
2020	24	19	16	7	10	13	14	14	16	18	20	14
2021	17	19	17	20	22	26	27	26	30	32		

PRICES AND LABOR COMPENSATION

Net Percent Price Increase and Net Percent Compensation
(Seasonally Adjusted)

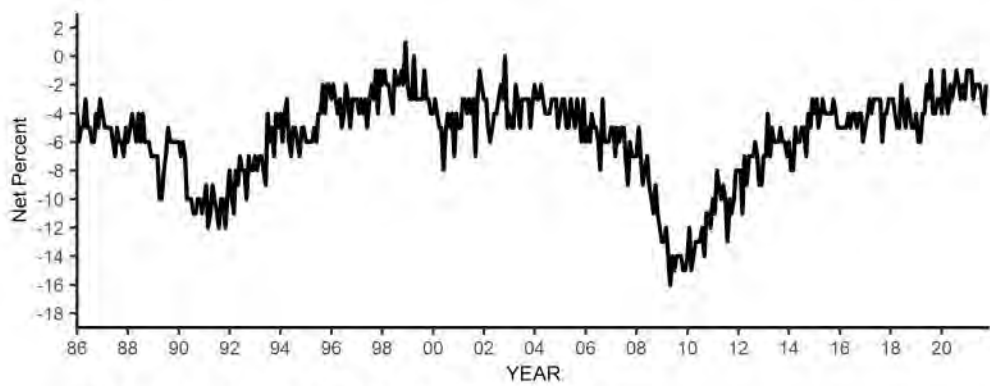


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SMALL BUSINESS CREDIT CONDITIONS

CREDIT CONDITIONS

Loan Availability Compared to Three Months Ago*
January 1986 to October 2021



REGULAR BORROWERS

Percent Borrowing at Least Once Every Three Months

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	33	31	32	29	29	29	28	29	32	28	31	30
2017	30	31	30	31	28	27	30	31	29	30	30	34
2018	31	31	32	31	34	28	32	32	29	32	32	35
2019	33	33	34	31	31	28	28	33	30	29	28	29
2020	31	28	26	29	26	27	26	24	26	25	22	26
2021	23	26	23	24	23	21	21	20	20	23		

AVAILABILITY OF LOANS

Net Percent ("Easier" Minus "Harder")
Compared to Three Months Ago
(Regular Borrowers)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	-5	-5	-5	-5	-4	-5	-4	-4	-5	-4	-4	-6
2017	-5	-4	-3	-4	-3	-3	-3	-3	-6	-4	-4	-3
2018	-3	-3	-4	-5	-5	-2	-4	-5	-3	-4	-5	-5
2019	-4	-6	-6	-4	-4	-2	-3	-1	-4	-4	-3	-3
2020	-4	-1	-3	-4	-2	-3	-2	-1	-2	-3	-2	-3
2021	-1	-1	-1	-3	-2	-2	-2	-3	-4	-2		

SMALL BUSINESS CREDIT CONDITIONS (CONTINUED)

BORROWING NEEDS SATISFIED

Percent of All Businesses Last Three Months Satisfied/
Percent of All Businesses Last Three Months Not Satisfied
(All Borrowers)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	35/3	31/4	31/5	31/4	31/4	32/5	30/3	29/4	32/6	29/4	30/4	29/4
2017	31/4	30/3	32/4	32/3	31/3	27/4	31/3	34/3	33/2	29/4	32/4	32/3
2018	31/3	32/2	31/4	32/4	37/4	30/3	32/3	33/3	27/3	30/3	32/3	32/4
2019	33/3	34/3	33/3	32/4	34/3	29/3	28/3	31/4	30/2	29/3	28/3	29/3
2020	30/3	32/2	29/3	29/5	33/3	34/3	35/3	31/3	33/2	29/3	25/2	26/3
2021	24/2	28/2	27/2	26/2	23/3	25/3	23/2	22/2	20/2	23/2		

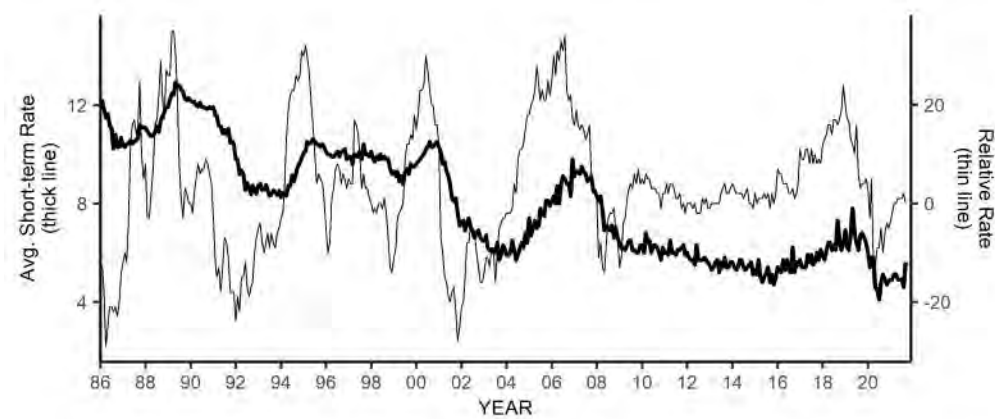
EXPECTED CREDIT CONDITIONS

Net Percent ("Easier" Minus "Harder") During Next Three Months
(Regular Borrowers)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	-7	-7	-6	-6	-6	-6	-5	-5	-7	-6	-5	-6
2017	-3	-3	-3	-4	-4	-3	-4	-3	-4	-5	-4	-4
2018	-4	-3	-6	-6	-5	-4	-4	-6	-5	-5	-5	-6
2019	-5	-5	-7	-4	-5	-3	-4	-2	-4	-3	-3	-3
2020	-4	-1	-4	-6	-4	-6	-5	-4	-5	-4	-3	-5
2021	-3	-6	-3	-3	-3	-4	-4	-4	-4	-4		

INTEREST RATES

Relative Rates and Actual Rates Last Three Months
January 1986 to October 2021



AR2022_502769

SMALL BUSINESS CREDIT CONDITIONS (CONTINUED)

RELATIVE INTEREST RATE PAID BY
REGULAR BORROWERS

Net Percent ("Higher" Minus "Lower") Compared to Three Months Ago

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	7	6	6	4	4	4	2	2	3	1	2	4
2017	11	9	9	11	11	8	11	8	10	8	9	8
2018	12	13	14	16	16	14	17	17	16	17	19	24
2019	20	17	17	13	12	10	16	6	3	4	4	5
2020	3	-3	5	-11	-13	-9	-9	-5	-10	-6	-4	-5
2021	-4	-2	0	0	1	1	1	2	0	2		

Borrowing at Least Once Every Three Months.

ACTUAL INTEREST RATE PAID ON
SHORT-TERM LOANS BY BORROWERS

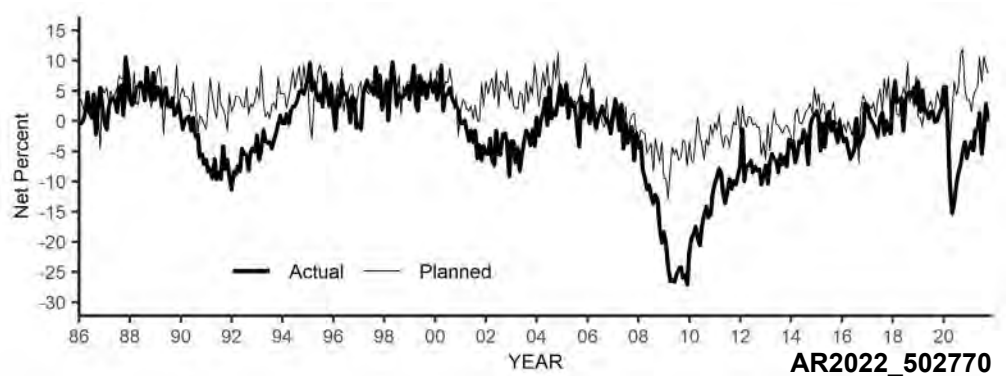
Average Interest Rate Paid

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	5.4	5.3	5.2	5.7	5.3	5.7	5.3	5.2	6.2	5.2	5.6	5.5
2017	5.7	5.4	5.4	5.4	5.9	5.6	5.9	5.5	5.6	6.0	5.7	6.1
2018	5.9	5.7	6.1	6.4	6.4	6.1	6.3	6.1	7.3	6.4	6.1	6.4
2019	6.9	6.2	6.1	6.7	7.8	6.8	6.4	6.1	6.7	6.8	6.6	6.4
2020	6.0	5.4	5.8	5.8	4.6	4.5	4.1	4.8	5.1	4.9	4.7	4.8
2021	4.9	4.9	5.1	5.1	4.9	4.9	4.9	4.6	5.6	4.9		

SMALL BUSINESS INVENTORIES

INVENTORIES

Actual (Last Three Months) and Planned (Next Three Months)
January 1986 to October 2021
(Seasonally Adjusted)



SMALL BUSINESS INVENTORIES (CONTINUED)

ACTUAL INVENTORY CHANGES

Net Percent ("Increase" Minus "Decrease") During Last Three Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	-2	-3	-3	-5	-6	-6	-5	0	-4	-3	-3	3
2017	3	1	0	-1	-1	-3	1	1	-2	0	-2	-2
2018	4	7	3	4	4	-2	4	4	5	4	6	3
2019	7	2	5	2	2	0	2	1	0	0	2	2
2020	6	6	0	-11	-15	-14	-11	-9	-7	-5	-4	-6
2021	-4	-3	-5	-2	-1	1	-6	-2	3	0		

INVENTORY SATISFACTION

Net Percent ("Too Low" Minus "Too Large") at Present Time
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	-2	-2	-5	-5	-4	-4	-4	-2	-7	-4	-4	-3
2017	-5	-2	-5	-3	-6	-3	-2	-5	-3	-5	-2	-2
2018	-5	-3	-6	-4	-4	0	-3	-3	-1	-2	-5	-1
2019	-3	-2	-6	-4	-4	0	-3	-6	-6	-4	1	-4
2020	-3	-4	-2	-7	-5	1	1	3	5	4	5	7
2021	5	5	3	7	8	11	12	11	10	9		

INVENTORY PLANS

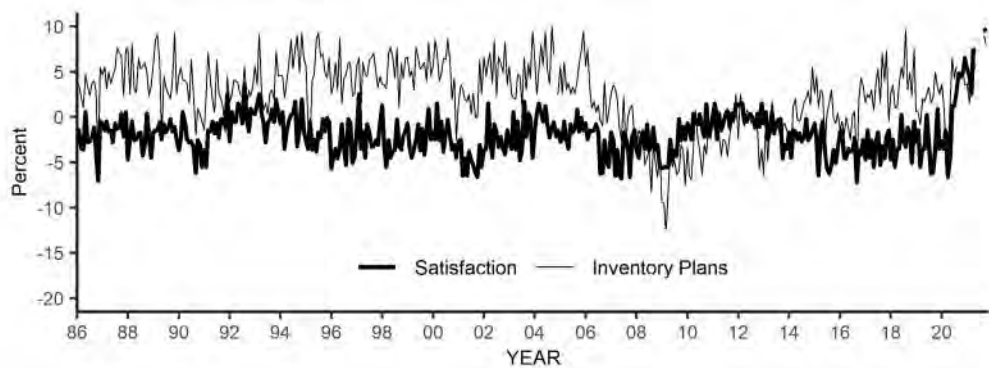
Net Percent ("Increase" Minus "Decrease") in the Next Three to Six Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	-1	-1	-2	0	-1	-3	0	1	-7	2	4	4
2017	2	3	2	3	1	4	5	2	7	4	7	-1
2018	3	4	1	1	4	6	4	10	3	5	2	8
2019	1	1	-1	2	2	3	3	2	2	5	3	3
2020	4	2	-3	-4	2	7	4	6	11	12	5	4
2021	4	2	4	5	6	11	6	11	9	8		

SMALL BUSINESS CAPITAL OUTLAYS

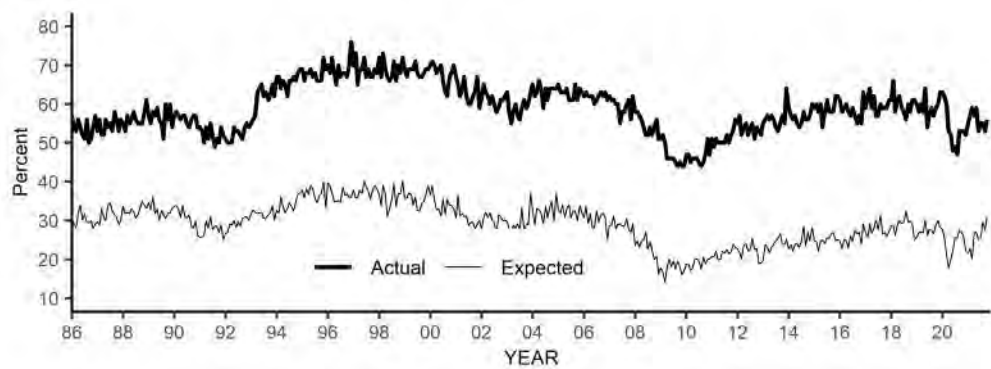
INVENTORY SATISFACTION AND INVENTORY PLANS

Net Percent (“Too Low” Minus “Too Large”) at Present Time
Net Percent Planning to Add Inventories in the Next Three to Six Months
(Seasonally Adjusted)



CAPITAL EXPENDITURES

Actual Last Six Months and Planned Next Three Months
January 1986 to October 2021
(Seasonally Adjusted)



ACTUAL CAPITAL EXPENDITURES

Percent Making a Capital Expenditure During the Last Six Months

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	61	58	59	60	58	57	59	57	55	57	55	63
2017	59	62	64	59	62	57	57	60	59	59	59	61
2018	61	66	58	61	62	59	58	56	60	58	61	61
2019	60	58	60	58	64	54	57	59	57	59	60	63
2020	63	62	60	53	52	48	49	47	53	53	53	52
2021	55	57	59	57	59	53	55	55	53	56		

SMALL BUSINESS CAPITAL OUTLAYS (CONTINUED)

TYPE OF CAPITAL EXPENDITURES MADE
Percent Purchasing or Leasing During Last Six Months

Type	Current Month	One Year Ago	Two Years Ago
Vehicles	24	21	24
Equipment	40	34	42
Furniture or Fixtures	12	9	15
Add. Bldgs. or Land	7	6	4
Improved Bldgs. or Land	14	12	18

AMOUNT OF CAPITAL EXPENDITURES MADE
Percent Distribution of Per Firm Expenditures
During the Last Six Months

Amount	Current Month	One Year Ago	Two Years Ago
\$1 to \$999	2	2	3
\$1,000 to \$4,999	6	5	8
\$5,000 to \$9,999	4	5	7
\$10,000 to \$49,999	19	16	18
\$50,000 to \$99,999	10	7	10
\$100,000 +	11	10	13
No Answer	2	2	0

CAPITAL EXPENDITURE PLANS
Percent Planning a Capital Expenditure During Next Three to Six Months
(Seasonally Adjusted)

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	25	23	25	25	23	26	25	28	27	27	24	29
2017	27	26	29	27	28	30	28	32	27	27	26	27
2018	29	29	26	29	30	29	30	33	30	30	29	25
2019	26	27	27	27	30	26	28	28	27	29	30	28
2020	28	26	21	18	20	22	26	26	28	27	26	22
2021	22	23	20	27	27	25	26	30	28	31		

SINGLE MOST IMPORTANT PROBLEM

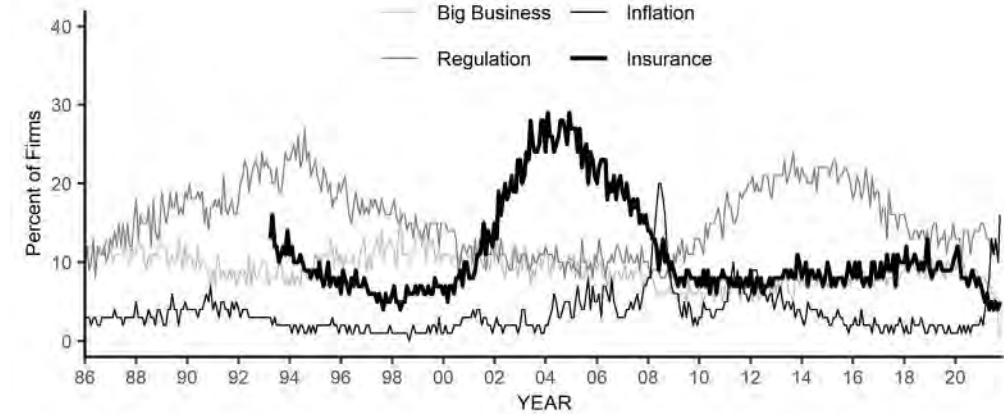
SINGLE MOST IMPORTANT PROBLEM

October 2021

Problem	Current	One Year Ago	Survey High	Survey Low
Taxes	17	17	32	8
Inflation	16	1	41	0
Poor Sales	5	15	34	2
Fin. & Interest Rates	1	2	37	1
Cost of Labor	10	8	11	2
Government Regulation	11	11	27	4
Comp. from Large Bus.	0	9	14	0
Quality of Labor	24	21	28	3
Cost/Avail. of Insurance	5	9	29	4
Other	11	7	31	1

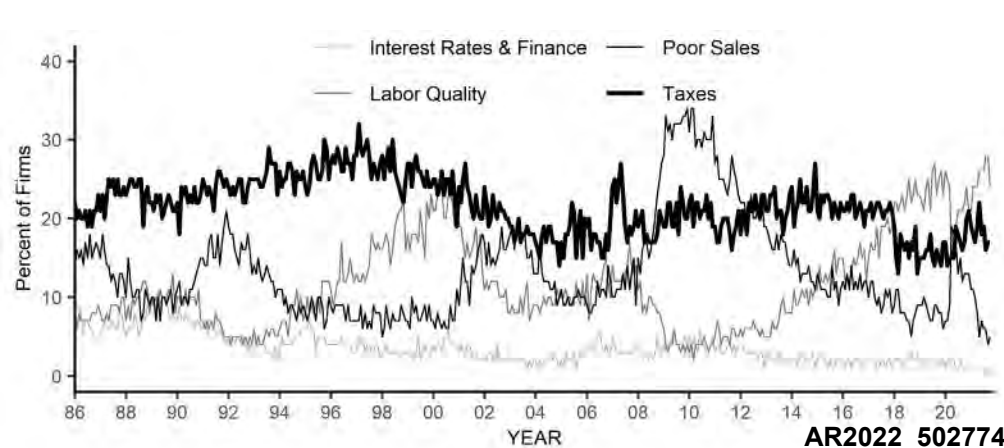
SELECTED SINGLE MOST IMPORTANT PROBLEM

Inflation, Big Business, Insurance and Regulation
January 1986 to October 2021



SELECTED SINGLE MOST IMPORTANT PROBLEM

Taxes, Interest Rates, Sales and Labor Quality
January 1986 to October 2021



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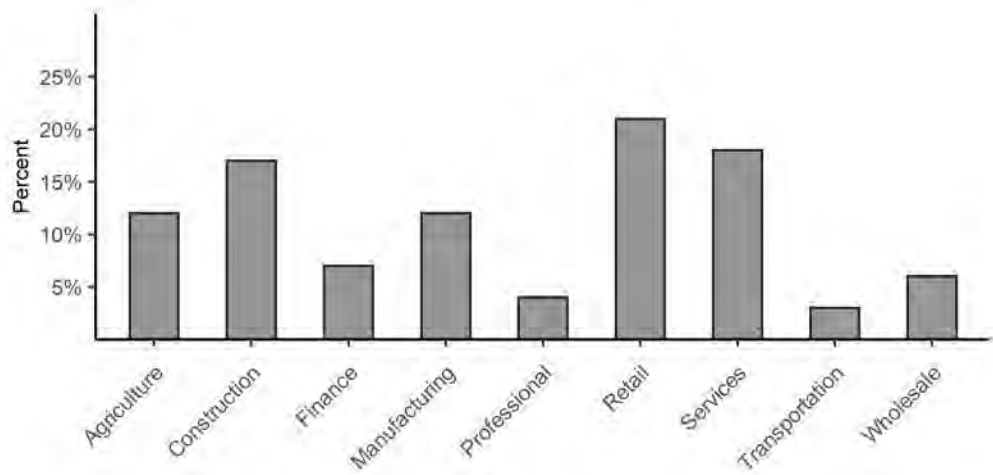
SURVEY PROFILE

OWNER/MEMBERS PARTICIPATING IN
ECONOMIC SURVEY NFIB

Actual Number of Firms

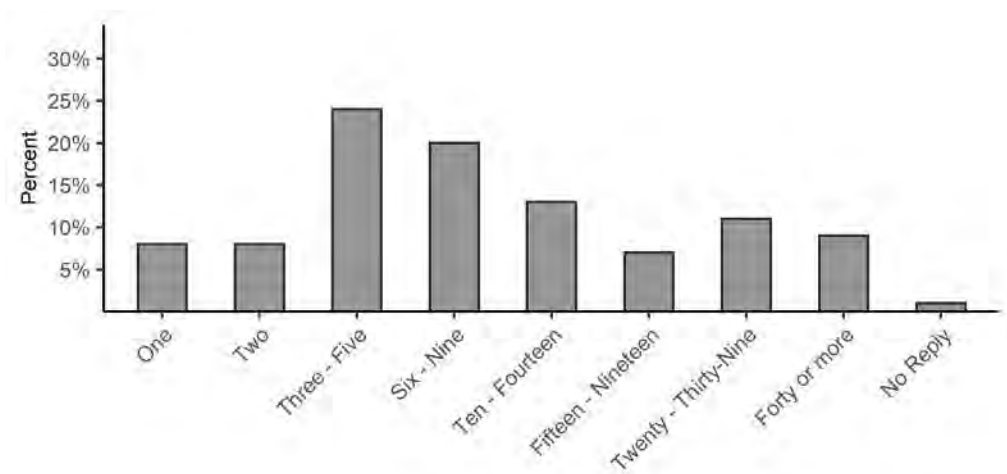
	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
2016	1438	756	727	1644	700	735	1703	730	723	1702	724	619
2017	1873	764	704	1618	699	624	1533	713	629	1513	544	495
2018	1658	642	570	1554	562	665	1718	680	642	1743	700	621
2019	1740	526	643	1735	650	606	1502	680	603	1618	500	488
2020	1692	641	627	1832	814	670	1652	751	604	1719	561	542
2021	1109	678	514	1516	659	592	1440	595	537	1431		

NFIB OWNER/MEMBERS PARTICIPATING
IN ECONOMIC SURVEY



NFIB OWNER/MEMBERS PARTICIPATING
IN ECONOMIC SURVEY

Number of Full and Part-Time Employees



NFIB RESEARCH CENTER SMALL BUSINESS ECONOMIC SURVEY

SMALL BUSINESS SURVEY QUESTIONS	PAGE IN REPORT
Do you think the next three months will be a good time for small business to expand substantially? Why?	4
About the economy in general, do you think that six months from now general business conditions will be better than they are now, about the same, or worse?	5
Were your net earnings or "income" (after taxes) from your business during the last calendar quarter higher, lower, or about the same as they were for the quarter before?	6
If higher or lower, what is the most important reason?	6
During the last calendar quarter, was your dollar sales volume higher, lower, or about the same as it was for the quarter before?	7
Overall, what do you expect to happen to real volume (number of units) of goods and/or services that you will sell during the next three months?	7
How are your average selling prices compared to three months ago?	8
In the next three months, do you plan to change the average selling prices of your goods and/or services?	8
During the last three months, did the total number of employees in your firm increase, decrease, or stay about the same?	9
If you have filled or attempted to fill any job openings in the past three months, how many qualified applicants were there for the position(s)?	9
Do you have any job openings that you are not able to fill right now?	10
In the next three months, do you expect to increase or decrease the total number of people working for you?	10
Over the past three months, did you change the average employee compensation?	11
Do you plan to change average employee compensation during the next three months?	11

SMALL BUSINESS SURVEY QUESTIONS	PAGE IN REPORT
Are...loans easier or harder to get than they were three months ago?	12
During the last three months, was your firm able to satisfy its borrowing needs?	13
Do you expect to find it easier or harder to obtain your required financing during the next three months?	13
If you borrow money regularly (at least once every three months) as part of your business activity, how does the rate of interest payable on your most recent loan compare with that paid three months ago?	14
If you borrowed within the last three months for business purposes, and the loan maturity (pay back period) was 1 year or less, what interest rate did you pay?	14
During the last three months, did you increase or decrease your inventories?	15
At the present time, do you feel your inventories are too large, about right, or inadequate?	15
Looking ahead to the next three months to six months, do you expect, on balance, to add to your inventories, keep them about the same, or decrease them?	15
During the last six months, has your firm made any capital expenditures to improve or purchase equipment, buildings, or land?	16
If [your firm made any capital expenditures], what was the total cost of all these projects?	17
Looking ahead to the next three to six months, do you expect to make any capital expenditures for plant and/or physical equipment?	17
What is the single most important problem facing your business today?	18
Please classify your major business activity, using one of the categories of example below	19
How many employees do you have full and part-time, including yourself?	19

RESEARCH

Open Access



Physician workforce in the United States of America: forecasting nationwide shortages

Xiaoming Zhang¹, Daniel Lin², Hugh Pforsich³ and Vernon W. Lin^{4*}

Abstract

Background: Physicians play a critical role in healthcare delivery. With an aging US population, population growth, and a greater insured population following the Affordable Care Act (ACA), healthcare demand is growing at an unprecedented pace. This study is to examine current and future physician job surplus/shortage trends across the United States of America from 2017 to 2030.

Methods: Using projected changes in population size and age, the authors developed demand and supply models to forecast the physician shortage (difference between demand and supply) in each of the 50 states. Letter grades were then assigned based on projected physician shortage ratios (physician shortage per 100 000 people) to evaluate physician shortages and describe the changing physician workforce in each state.

Results: On the basis of current trends, the number of states receiving a grade of “D” or “F” for their physician shortage ratio will increase from 4 in 2017 to 23 by 2030, with a total national deficit of 139 160 physician jobs. By 2030, the West is forecasted to have the greatest physician shortage ratio (69 physician jobs per 100 000 people), while the Northeast will have a surplus of 50 jobs per 100 000 people.

Conclusion: There will be physician workforce shortages throughout the country in 2030. Outcomes of this study provide a foundation to discuss effective and efficient ways to curb the worsening shortage over the coming decades and meet current and future population demands. Increased efforts to understand shortage dynamics are warranted.

Keywords: Physician workforce, Demand, Supply, Physician shortage, Report card

Background

Improving quality of care, increasing access to care, and controlling healthcare costs depend on the adequate availability of healthcare providers [1]. Due to aging, population growth, and a greater insured population following the Affordable Care Act (ACA), physician availability to patients has been recognized as one of the top barriers to meet the healthcare needs of patients in the United States of America [2]. For instance, the Bureau of Labor Statistics (BLS) predicts that 91 400 physician jobs will be needed nationally; this is a 13% increase from 2016 to 2026 [3]. Meanwhile, it is predicted that there will be a physician shortage in the next decade because the demand for physicians is growing faster than the supply of physicians [4]. According to the Health Resources and Services Administration's (HRSA) report in 2011 [5], there was an

estimated existing deficiency of 17 722 primary care providers in the United States of America. Furthermore, in 2020, the United States of America may face shortages of 45 400 primary care physicians and 46 100 medical specialists—a total shortage of 91 500 doctors in 2020 [6]. Only in the most optimistic supply and demand scenarios would the nation have an adequate supply to meet demand in the year 2020 [7]. In a recent study, the Association of American Medical Colleges (AAMC) predicted that by 2030, the demand for doctors will outstrip the supply and that the United States of America will experience a shortage of up to 121 300 physicians [8]. The physician shortage is increasing steadily throughout the nation and will influence the delivery of healthcare, thus affecting patient outcomes negatively.

Healthcare First is a health service study group that began its investigation of the distribution of registered nurses (RN) throughout the state of California in 2005 [9, 10]. Since then, the group has expanded its scope to study social

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workers [11], physical therapists [12], occupational therapists [13], RN for the United States of America [14], and now the physician workforce. This study uses a similar methodology as the previous studies to examine the current surplus/shortage trends in the physician workforce across the United States of America and to make predictions for these trends to the year 2030. It also applies the methodology to each individual state and assigns a workforce grade to each state. This analysis should prove beneficial in the development of policies that address the availability of physicians throughout the United States of America.

Methods

Design and sample

This article used the same forecast and grading methodology developed in previous healthcare provider shortage forecast studies [14, 15]. Physician job shortages were projected by investigating the differences between physician demand and physician supply in all 50 states (Table 1, key term definitions). With the use of public databases, a forecasting model was constructed to project the demand and supply of physician jobs in the

United States. The combination of these supply and demand models was used to produce physician shortage forecasts for the coming years. A grading methodology was then used to evaluate individual state shortage ratios between 2017 and 2030. In order to analyze the national shortage more specifically, the states were grouped into four regions (West, Midwest, South, and Northeast) as defined by the Bureau of Labor Statistics.

Demand model

The demand model was based on the previous model with updated values. In order to find the demand, the study team utilized numbers published by the Centers for Medicare & Medicaid Services (CMS) about age-based personal health care expenditure (PHE) estimates for 2010 [16]. Age-population projections from the United States Census Bureau (USCB) [17] were used with the age-based PHE estimates to forecast future demand for health services until 2030 as a single dollar amount. Using linear regression analysis, the nation's healthcare expenditure was plotted against the BLS-reported number of physician jobs nationally from 2004

Table 1 Explanation of key terms

Key terms	Definition
Bureau of Labor Statistics (BLS)	The official source of labor economic and statistical data for the federal government. Through a semiannual survey, the BLS produces employment and wage estimates for 800 different occupations on the national, state, and sub-regional levels (www.bls.gov).
Centers for Medicare & Medicaid Services (CMS)	Source of age-based personal health care expenditure estimates.
Current Population Survey (CPS)	CPS is a monthly survey of about 50 000 households conducted by USCB and BLS. CPS is the primary source of information on the labor force characteristics of the US population.
Report card	A collection of grades assigned to each state based on a grading rubric used for determining stated (2011) or projected (2030) physician shortage ratios.
National mean	195 Physician jobs per 100 000 people. This value was based on the number of physicians in the United States of America per 100 000 people for 2011.
Personal health care expenditure (PHE)	An estimate that takes into account "spending for hospital care, physician and clinical services, dental care, other professional services, home healthcare, nursing home care, and healthcare products purchased in retail outlets." This estimate does not include spending on public health programs, health facility administration, healthcare research, and the construction of healthcare facilities (Centers for Medicare and Medicaid Services, 2018).
Physicians (including surgeons)	Physicians diagnose and treat injuries and illnesses in patients. Physicians examine patients, take medical histories, prescribe medications, and order, perform, and interpret diagnostic tests. Surgeons operate on patients to treat injuries, such as broken bones; diseases, such as cancerous tumors; and deformities, such as cleft palates.
Physician jobs	A worker who can be classified as a full-time or part-time physician. This is the fundamental unit of measure used to estimate physician populations and is counted through a survey conducted by the BLS every 3 years.
Physician demand	The estimated number of physician jobs needed to meet population needs.
Physician demand ratio	The number of physician jobs needed per 100 000 people.
Physician shortage	The difference between a region's demand for physician jobs and that region's supply of physician jobs.
Physician shortage ratio	Physician shortage per 100 000 people.
Physician supply	The estimated number of physician jobs.
Physician supply ratio	The number of physician jobs per 100 000 people.
US Census Bureau (USCB)	USCB is a government agency that is responsible for the US Census. USCB is responsible for collecting and providing relevant data about the people and economy of the United States of America.

to 2017. This resulted in a slope of 4.14×10^{-7} ($R^2 = 0.963$). This slope was used to convert change in PHE to change in physician jobs for the nation and each state. The equation for the demand model is as follows:

$$D_{R,N} = 203 \times [\text{2017 Projected State Population}] / 10^5 \\ + 4.14 \times 10^{-7} \times (\Delta PHE_{R,2017,2018} + \Delta PHE_{R,2018,2019} \\ + \dots + \Delta PHE_{R,N-1,N})$$

where D is the demand, R is the region or state, and N is the year and $\Delta PHE_{R,N-1,N} = PHE_N - PHE_{N-1}$. The number 203 is the national mean of physician jobs (physician jobs per 100 000 people); 4.14×10^{-7} is the linear slope of change in PHE to the number of physician jobs.

Supply model

The propensity or probability of a US citizen to work as a physician was calculated using estimates provided by the Current Population Service about the physician age-population [18]. Physician population estimates were collected over the course of 14 years from 2004 to 2017 in the following seven age groups: 16 to 19, 20 to 24, 25 to 34, 35 to 44, 45 to 54, 55 to 64, and 65 and older. These numbers were then divided by the population in the same age groups which yielded the physician propensity. The following formula contains details of the supply model:

$$S_{R,N} = BLS_{2017} + \sum_R (L_A \times (\Delta POP_{A,2017,2018}) \\ + \sum_R (L_A \times (\Delta POP_{A,2017,2018}) + \dots \\ + \sum_R (L_A \times (\Delta POP_{A,N-1,N}))$$

where S is the supply, R is the region or state, N is the year, L is the likelihood averaged over 14 years, and A is the age group; $\Delta POP_{A,N-1,N} = \text{age group-specific Population}_N - \text{Population}_{N-1}$; and BLS_{2017} is the number of physician jobs reported by the BLS in 2017.

Report card

The method used to determine grading in this article is the physician shortage, which is the difference between the physician demand and the physician supply per 100 000 people, as shown in the following equation.

$$\frac{[\text{State}] \text{ Physician Demand} - [\text{State}] \text{ Physician Supply}}{[\text{State}] \text{ Total Population}} \\ \times 10^5 \\ = [\text{State}] \text{ Physician Shortage Ratio}$$

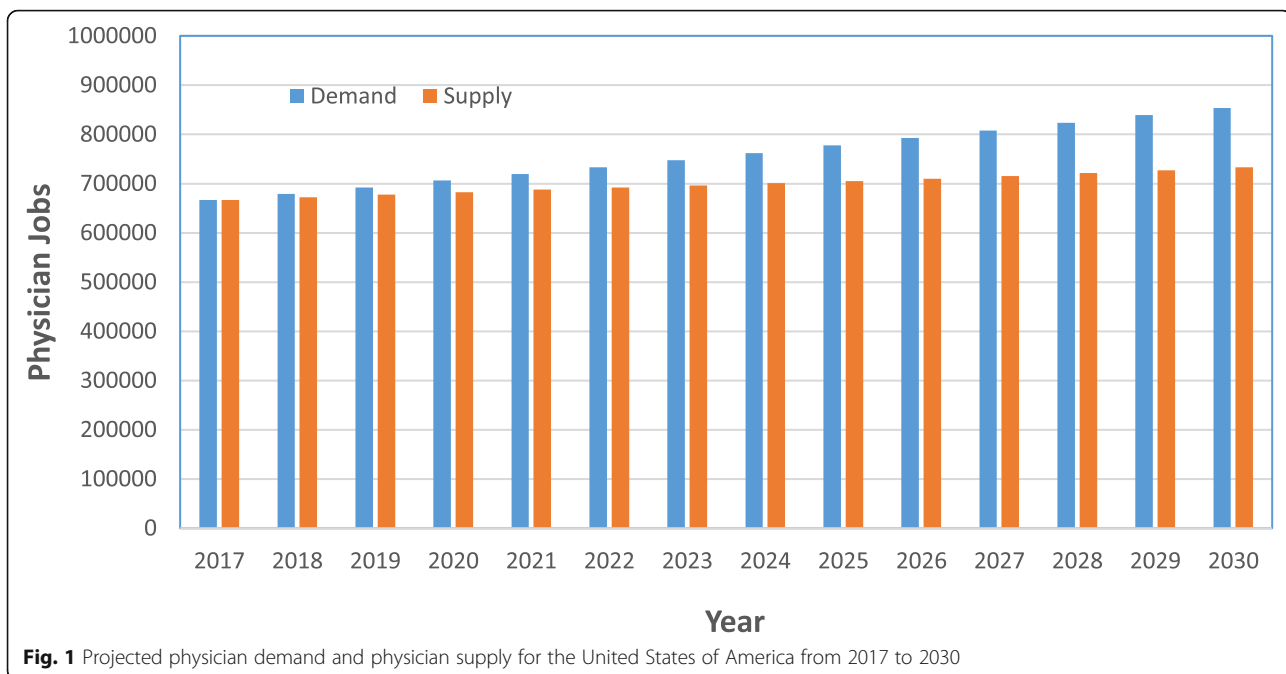
The national and state numbers of physician jobs in 2017 were retrieved from the BLS [19]. Population projections were obtained from the USCB [17]. The report card was based on the national physician supply ratio, or national

mean, of 203 physician jobs per 100 000. This value served as the standard value for comparison for state performances in the years to come. The standard deviation (SD) of the physician supply ratios across the 50 states formed the framework of the grading rubric (SD of 50 states is 57 physicians per 100 000 people in this study). Letter grades were given based on the difference between the national mean and each state's shortage ratio with the national mean serving as the "C" grade. A and F grades were given for physician job shortage ratios ± 2 SD from the mean, B and D were ± 1 SD from the mean, and C+ and C- were ± 0.5 SD from the mean.

Results

This study breaks down physician shortages into three different levels: national, regional, and state. Nationally, physician shortages will continue to grow across the country through 2030 (Fig. 1). The United States of America will face an estimated shortage of 139 160 physicians by 2030, and this significant shortage will have varying impacts on each region. Among the four regions, those with the largest estimated shortage in 2030 will be the South (92 172 jobs) and the West (63 589 jobs); the Midwest will have a lower shortage of 16 291 jobs. The Northeast is the only region predicted to have a surplus of physician jobs with an excess of 28 627 jobs. In terms of physician shortage ratios in 2030, the West is forecasted to have the greatest shortage (69 physician jobs per 100 000 people) followed by the South with 62 physician per 100 000 people. The Midwest will have a shortage ratio of 41 jobs per 100 000, and the Northeast will have a surplus of 50 jobs per 100 000.

On the state level (Table 2), the states with the greatest estimated physician shortage will be California (32 669 jobs), Florida (21 978 jobs), and Texas (20 420 jobs). In terms of shortage ratio (physician shortage per 100 000 people), the states with the largest shortage ratio will be Mississippi (120), New Mexico (101), and Louisiana (100). The states with the least shortage in terms of shortage ratio are Massachusetts (-145), Vermont (-95), and New York (-76). Each state shows an increase in shortage ratio ranging from 16 to 57 people per 100 000 when comparing the data between 2017 and 2030 (Table 2). States with the largest increase in shortage ratio will be New Mexico (57), Wyoming (57), and Delaware (54). With regard to grades, in 2017, there were two As, five Bs, seven C+s, 19 Cs, 13 C-s, four Ds, and 0 F. Only Massachusetts and Vermont had an A grade. In 2030, there will be one A, three Bs, two C+s, 10 Cs, 11 C-s, 22 Ds, and 1 F with Massachusetts being the only one having a grade of A. Using a numeric grading scale in which A = 4, B = 3, C+ = 2.33, C = 2, C- = 1.67, D = 1, and F = 0, the national grade point



average was 2.06 in 2017, a C grade average. By the year 2030, this national grade point average is expected to decrease to 1.56, a C– grade average.

Discussion

This study predicts that the demand for physician services will significantly outpace the supply of physicians within the United States of America from 2017 to 2030, causing many states to face severe physician workforce shortages (Fig. 2). By 2030, 34 out of 50 states will have physician shortages with a grade of C– and below. Most of these states are located in the South and West regions, which is consistent with our prior publications regarding the shortage of nurses [14, 15].

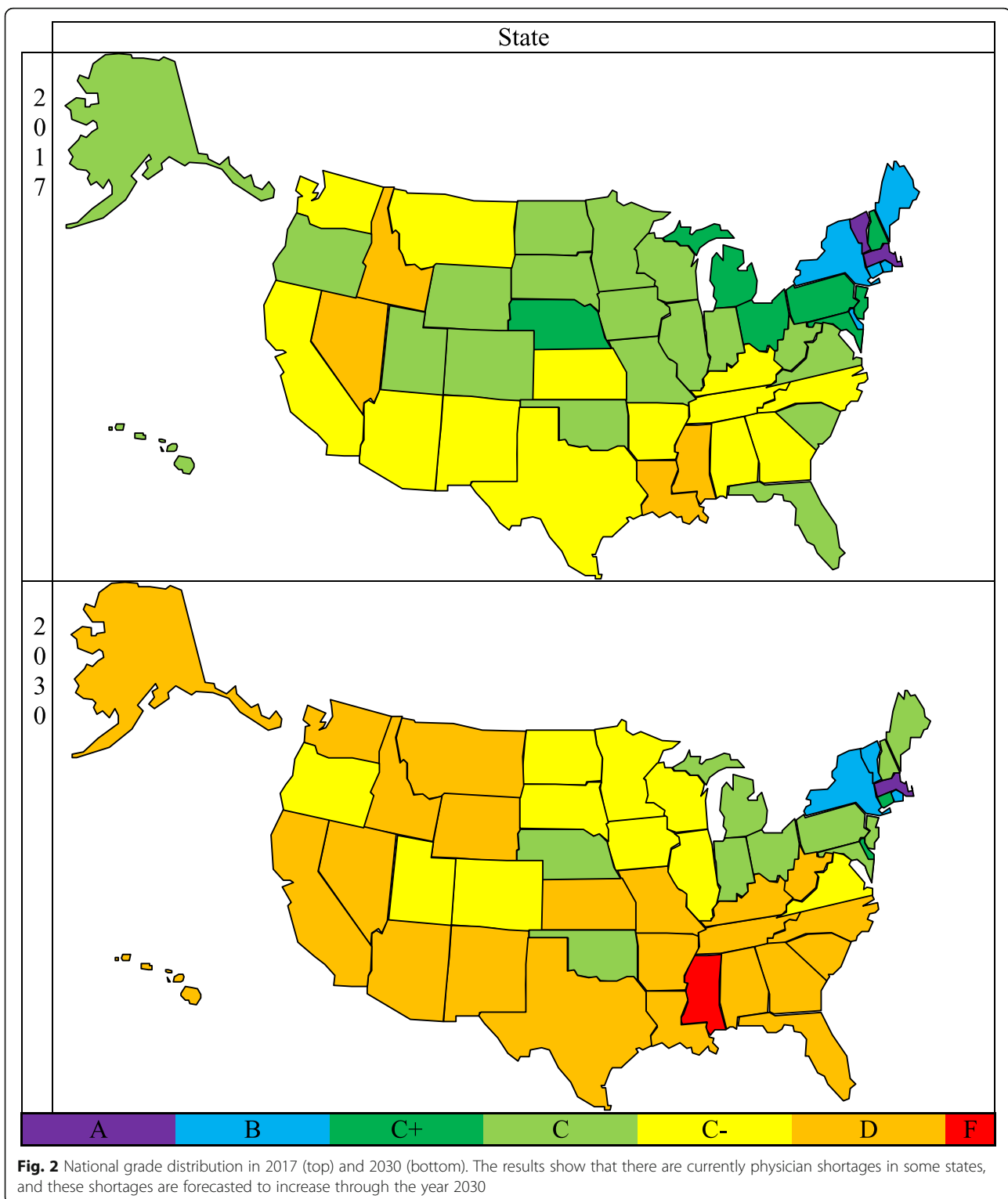
Examination of the healthcare workforce is difficult due to the complexity of factors (e.g., population growth, age, economics, healthcare policy, healthcare practice, geography, models of care, new technologies, and innovations) that affect supply, demand, and balance between supply and demand in each state. By 2030, the following states will have the largest physician shortages (the number of physician jobs): California (32 669 jobs), Florida (21 978 jobs), and Texas (20 420 jobs). The key reasons for high shortages in these three states are attributed to high physician demand from the growth of the total population, aging state population, and aging physicians without an adequate commensurate increase in physician supplies. Taking California as an example, the state population and elderly population will grow by 112% and 148% between 2017 and 2030, respectively. Meanwhile, 33.4% of all active physicians in California are over 60 years old and within 5 years of retirement,

although at the national level, only 30.3% of all active physicians are 60 years old and above [20]. From 2006 to 2016, the number of medical students at Doctor of Medicine (MD) and Doctor of Osteopathic Medicine (DO) schools increased by 20.7% (7387 students), and the number of residents and fellows increased by 12.8% (10 429 students) [20]. On the basis of current trends, the number of new licensees per year is not large enough to replace these physicians as they retire, and physician demand will outpace the physician supply within the state of California [21].

Florida and Texas, the two other states with the largest physician shortage, are experiencing similar situations as California. These two states are on the top of the list of the fastest-growing states in the United States of America. In the next 10 years, Florida's population will increase by 30% and Texas will increase by 22%. Furthermore, by 2030, the aging population will increase 73% and 55% in Florida and Texas, respectively. Physicians are aging along with the general population in these two states, which will have a profound impact on the physician workforce. Approximately, 34.3% of all active physicians in Florida [22] and 27.2% of all active physicians in Texas [23] are over 60 years old. It should be noted that Florida has the seventh oldest physician population in the United States of America [22] with a total of 16.6% of its physicians planning to retire in the next 5 years [24]. In the past 10 years, these two states rapidly expanded their number of medical students, residents, and fellows. From 2006 to 2016 in Florida, there was a 70.9% increase in the number of medical students and a 50.5% increase in the number of residents and

Table 2 States organized by BLS-defined region and the change in physician-related factors for 2017–2030

Rank	States	Region	Change in Population	2030	2030	2017	2030	2030 Ratios		2017	2030	Change in Shortage Ratios
				PHY Surplus	PHY Shortage	Shortage Ratio	Shortage Ratio	Surplus	Shortage	Grade	Grade	
1	Massachusetts	Northeast	212,993	10,133		-183	-145			A	A	39
2	Vermont	Northeast	31,138	673		-146	-95			A	B	52
3	New York	Northeast	-91,319	14,875		-105	-76			B	B	29
4	Rhode Island	Northeast	6,347	677		-93	-59			B	B	34
5	Connecticut	Northeast	34,457	1,409		-71	-38			B	C+	33
6	Delaware	South	69,907	334		-87	-33			B	C+	54
7	Maryland	South	695,261	1,408		-51	-20			C+	C	31
8	Nebraska	Midwest	25,380	274		-51	-15			C+	C	36
9	Ohio	Midwest	-94,920	1,648		-43	-14			C+	C	29
10	Maine	Northeast	12,607	175		-63	-12			B	C	51
11	New Hampshire	Northeast	161,873	161		-55	-10			C+	C	45
12	New Jersey	Northeast	459,502	557		-37	-6			C+	C	32
13	Michigan	Midwest	46,320	247		-32	-2			C+	C	30
14	Pennsylvania	Northeast	19,207		32	-32	0			C+	C	33
15	Indiana	Midwest	246,614		265	-24	4			C	C	28
16	Oklahoma	South	222,552		562	-17	14			C	C	31
17	Minnesota	Midwest	541,994		2,260	2	33			C	C-	31
18	Wisconsin	Midwest	214,335		2,263	-3	37			C	C-	40
19	North Dakota	Midwest	-27,067		234	-8	39			C	C-	47
20	Virginia	South	1,176,686		3,911	10	40			C	C-	30
21	Utah	West	622,179		1,418	20	41			C	C-	21
22	Oregon	West	724,952		2,008	19	42			C	C-	23
23	Colorado	West	652,453		2,424	15	42			C	C-	27
24	Illinois	Midwest	274,228		6,203	19	46			C	C-	27
25	South Dakota	Midwest	851		370	0	46			C	C-	47
26	Missouri	Midwest	306,012		3,102	18	48			C	C-	30
27	Iowa	Midwest	-71,659		1,660	19	56			C	C-	37
28	Hawaii	West	68,788		876	26	60			C	D	34
29	Texas	South	5,926,674		20,420	43	61			C-	D	19
30	Alabama	South	184,833		2,988	32	61			C-	D	29
31	West Virginia	South	-95,863		1,079	22	63			C	D	41
32	South Carolina	South	432,367		3,230	23	63			C	D	40
33	North Carolina	South	1,942,187		7,725	38	63			C-	D	25
34	Wyoming	West	-6,867		335	7	64			C	D	57
35	Kentucky	South	173,091		2,926	34	64			C-	D	31
36	Georgia	South	1,538,674		8,012	41	67			C-	D	25
37	Washington	West	1,490,025		6,037	54	70			C-	D	16
38	Alaska	West	118,729		609	18	70			C	D	52
39	California	West	5,484,918		32,669	49	70			C-	D	21
40	Arkansas	South	234,482		2,303	42	71			C-	D	29
41	Kansas	Midwest	70,905		2,102	39	72			C-	D	33
42	Florida	South	6,631,870		21,978	26	77			C	D	51
43	Arizona	West	2,845,080		8,280	38	77			C-	D	39
44	Tennessee	South	768,162		5,989	55	81			C-	D	26
45	Montana	West	35,093		894	33	86			C-	D	53
46	Idaho	West	294,759		1,743	64	88			D	D	24
47	Nevada	West	1,068,738		4,177	81	98			D	D	17
48	Louisiana	South	109,220		4,820	69	100			D	D	31
49	New Mexico	West	38,384		2,118	44	101			C-	D	57
50	Mississippi	South	64,467		3,709	85	120			D	F	35
All 50 States			35,891,599	32,571	171,731							
2030 National Net Physician Shortage					139,160							



fellows. The percentage changes in Texas are 31.6% and 18.6%, respectively [20]. It must be taken into account that the growth of medical students outpaces the growth of residents and fellows. Thus, continual efforts to

increase the pipeline of physicians in these states are paramount.

As for physician shortage ratios (physician jobs per 100 000 people), by 2030, the three states with the most

severe physician shortage ratios will be Mississippi (120), New Mexico (101), and Louisiana (100). The only state expected to have an F grade is Mississippi. Mississippi has a low physician availability of 118 active physicians per 100 000 people, 42% below the national mean of 203. Consequently, Mississippi will require an additional 3709 physicians by 2030, a 51% increase of the state's current 3528 practicing physicians (as of 2017) to meet the national benchmark. Since 2006, the MD and DO schools in Mississippi have increased their enrollment by more than 130%, which ranked first in percentage change nationally. By 2022, Mississippi medical school graduates will likely increase to more than 265 students annually, which is more than 2.5 times the Mississippi medical student graduation rate prior to 2005 [25, 26]. In addition, Mississippi increased its graduate medical education (GME) first-year training positions at community-based GME sites from 14 to 56 and its residency slots from 42 to 108 [25]. These actions can help Mississippi to train and retain more medical professionals within the state to mitigate its physician shortages.

New Mexico has the second-worst projected shortage ratio and is also the state with the largest change in shortage ratio, rising 57.1 physician jobs per 100 000 people by 2030 (Table 2). Among most states, aging of the physician workforce is a significant factor contributing to future state shortages. New Mexico has the oldest physician workforce in the nation, with 37% of physicians over 60 years old and facing retirement in the next 10 years [27]. To maintain the status quo, New Mexico will require an additional 2118 physicians by 2030, a 40.4% increase of the state's current 3128 physicians (as of 2017). The aging physician population reflects the difficulty New Mexico has in attracting and retaining young physicians.

Massachusetts and Vermont are the two states with the highest physician surplus. Both of these two states are located in the Northeast region, where GME training programs have historically been located. The distribution of residents is particularly important, given evidence that physicians tend to practice in geographic areas similar to those where they complete their GME training. Every year, federal GME spending of over \$15 billion trains residents across the country [28]. The Northeast region received \$5.47 billion (38%) of total federal spending, which is almost three times what the West received (\$1.83 billion, 13%). Consequently, 31% of GME residents were located in the Northeast [28]. It should be noted that the states with a physician surplus (graded A or B) will face increasing pressures from states with physician shortages (graded C- and below) to attract and retain physicians from their state [29].

There are a few related studies in the literature which examine the status of the physician workforce. HRSA produced a model of patient demand for primary care services that also incorporated the sizable challenges of

an aging and growing population [30]. This study projected a 23 640 primary care physician shortage in 2025. With delivery system changes and full utilization of mid-level healthcare providers, including nursing practitioner (NP) and physician assistant (PA) services, the projected shortage of 23 640 primary care physicians can be effectively mitigated. More recently, AAMC published a report on the supply and demand of physicians projected through 2030 [8]. This study supports the notion that an increasingly older population will result in an increase in the demand of physicians and cause a greater shortage of physicians. Using multiple different scenarios to reflect different assumptions, such as the use of NPs and PAs to assist staffing problems, AAMC predicted that the physician shortage will be between 42 600 and 121 300 in 2030. Based on our models, we predict that there will be a shortage of 72 472 physicians in 2025 and 139 160 physicians by 2030. These findings are consistent with the aforementioned reports under the scenario without mid-level healthcare services. In many states, mid-level healthcare providers are present to mitigate the shortage of physicians. With the assistance of these services, the healthcare industry is able to utilize a new patient care model that is more reliant on a team-based care delivery in order to care for an increasing number of insured and elderly patients. This team-based care model helps healthcare organizations work together more effectively and efficiently [31]. The utilization of mid-level healthcare providers may help to mitigate the physician shortage, it cannot completely replace physicians [32].

Recently, the New York University School of Medicine announced that it would eliminate tuition to encourage people to pursue medical careers [33]. Without the prospect of overwhelming financial debt, more people will pursue medical careers. People view this decision as a positive step forward, but they also caution that it might not be a silver bullet for America's worsening physician shortage. Presently, the United States of America is not facing a medical student shortage, but rather, a residency shortage. Because of the 1997 cap on Medicare to support GME, the necessary commensurate increases in residency training have been stymied [34], creating a bottleneck for the physician supply. In 2018, there was a record-breaking 37 103 US and international medical school students and graduates competing for only 33 167 positions, a shortfall of about 4000 residents-to-be [35]. To address this issue, the Resident Physician Shortage Reduction Act of 2017 (H. R. 2267) was introduced in Congress to increase by 3000 the annual number of residency slots from 2019 to 2023 [36]. States such as Arkansas, Kansas, Missouri, and Utah have also passed legislation to provide provisional licenses to some medical school graduates who have not been able to find residency spots [37]. With these provisional licenses, they can practice primary care under the medical license of another physician, but only in medically underserved areas. Some institutions

have also created their own medical-school-to-residency pathways. For example, Kaiser Permanente currently trains 600 residents annually and provides continuing medical education (CME) to another 22 000 medical professionals [38].

With the rapidly increasing demand for physicians, many US healthcare institutions turn to foreign-trained doctors to supplement their physician workforce [39]. Foreign-trained doctors have long been an integral part of the US healthcare system, contributing substantially to primary care disciplines and providing care in underserved populations. According to the Organization for Economic Cooperation and Development [40], in 2016, there were more than 215 630 foreign-trained doctors practicing in the United States of America, a number far surpassing any other country. It should be noted that the global physician supply is finite and the competition for these providers exists across national boundaries [41].

As technology evolves, its impact on the medical field increases. For example, artificial intelligence (AI) algorithms will shift the roles of physicians from a knowledge-based role into more of a skills-based role [42]. All of that information will be available in an AI-driven database that can not only bring up the information at a moment's notice, but also help to diagnoses. Technology enables physicians to spend less time testing samples and recording data and spend more time providing quality care to their patients. Technology also helps medical institutions operate more effectively and efficiently, which may alleviate some of the burdens of the physician shortage.

There were several limitations to our study involving the construction of demand and supply models. We made a crucial assumption in the demand model by using the current (2017) national ratio of physicians to the overall population (203 physicians per 100 000 people) as a baseline. We assumed that no shortage exists in this ratio, since a relative zero value was needed to calculate future shortages. This study does not comment on whether the country currently lacks physicians, but asserts that shortages are imminent, based on current trends in supply and demand. Therefore, if our assumption that the 2017 baseline without shortage is incorrect, our projections may underestimate the true nature of the shortage. In addition, the national slope was used in converting change in PHE to physician jobs to avoid state variations in physician workforce responsiveness to health expenditures. Further analysis indicated that change in PHE translates to a larger change in physician demand in some states than represented by the national slope. The responsiveness of physician jobs to PHE also may vary depending on the work setting for physicians.

The primary assumption in the supply model is that the average likelihood or propensity of an individual to choose to be a physician at a certain age is the same across every state and will be the same in the coming years. This does not address individual states' differences

in their ability to recruit young people into the medical profession and the capacity of their medical schools, including the number of faculty present. Moreover, we used an average propensity value over the past 10 years, which does not account for the increasing enrollment rates in medical schools. If enrollment continues to increase as it has for the past decade, the physician propensity value for those between ages 21 and 34 will be an underestimation. Another limitation that may underestimate the physician supply is the exclusion of future arrivals of foreign-born physicians. According to a study in 2015, almost a quarter of residents across all fields, and more than a third of residents in sub-specialist programs were foreign medical graduates [39]. This means that we are reliant on physicians trained outside the country to fill the gap.

Conclusion

The results in this study suggest that physician shortages currently exist in many states across the nation and will likely increase over the next 10 years and may influence the delivery of healthcare, negatively affecting patient outcomes. Steps have been taken to prepare the physician workforce to meet the growing demand for health services, which include rising numbers of medical school graduates, attracting foreign-trained doctors, utilization of mid-level providers, and application of emerging technology. We hope that the information derived from this study can guide future workforce research and inform health workforce planners, employers, educators, and policy-makers regarding the development of concrete national, regional, and/or state strategies to reduce physician shortages.

Abbreviations

AAMC: Association of American Medical Colleges; ACA: Affordable Care Act; AI: Artificial intelligence; BLS: Bureau of Labor Statistics; CME: Continuing medical education; CMS: Centers for Medicare & Medicaid Services; DO: Doctor of Osteopathic Medicine; GME: Graduate medical education; HRSA: Health Resources and Services Administration; MD: Doctor of Medicine; NP: Nursing practitioner; PA: Physician assistant; PHE: Personal health care expenditure; RN: Registered nurses; SD: Standard deviation; US: United States; USCB: United States Census Bureau (USCB)

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Authors' contributions

WVL designed the study, oversaw the data collection, and revised the manuscript. DL collected and analyzed the data and drafted the manuscript. XZ analyzed and interpreted the data and revised the manuscript. HP revised and prepared the final draft. All authors read and approved the final manuscript.

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Availability of data and materials

The datasets used and/or analyzed during the current study are available from the corresponding author on reasonable request.

Ethics approval and consent to participate

Not applicable

Consent for publication

Not applicable

Competing interests

The authors declare that they have no competing interests.

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A PORTRAIT OF DEFERRED ACTION FOR CHILDHOOD ARRIVALS RECIPIENTS

Challenges and Opportunities Three-Years Later

OCTOBER 2015



United We Dream®

A PORTRAIT OF DEFERRED ACTION FOR CHILDHOOD ARRIVALS RECIPIENTS

Challenges and Opportunities Three-Years Later

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Executive summary

On August 15, 2012, undocumented youth began the process of applying for the Deferred Action for Childhood Arrivals (DACA) program that was announced by President Barack Obama just three months prior.¹ Since then, DACA has allowed hundreds of thousands of undocumented immigrant youth to apply for temporary deferrals of deportations and work permits. Three years later, immigrant youth and their families are still profoundly affected by DACA – a program that was won following months of organizing by undocumented youth that often risked deportation as a consequence of their advocacy.²

Numerous studies have illustrated the impact DACA has had on the lives of undocumented youth – including employment, education, health, etc. Following these studies, the United We Dream Network (UWD) conducted a national survey of DACA recipients to better understand the lives of undocumented youth after three-years of the program.

UWD is the largest immigrant youth led network in the United States with 53 local groups, 120,000 members, and an online reach of nearly 2 million people. To date, UWD, along with other national partners, have educated over 100,000 people about DACA and have helped more than 25,000 people apply for the program through the Own the Dream (OTD) program.³ Through this program, UWD has connected the expertise of national legal partners with the innovation, expertise, and cultural responsiveness of immigrant youth organizations throughout the country. Through OTD, the survey was able to hear the experiences of a large number of undocumented immigrant youth with DACA.

About the Survey

This United We Dream survey was conducted using the online service Qualtrix in June 2015. In total, 2363 responses were recorded. The survey included some checks to make sure that the responses were not duplicates or coming from non-DACA recipients. The survey included validation questions about a respondent's immigration history. Each of the responses were checked to make sure that they were valid and had internal consistency based on the validation questions asked. In addition, the online platform used to run the survey also prevented multiple responses from any single internet protocol address to prevent "ballot stuffing." Of the total responses, we can be confident that 1759 responses were from DACA recipients.

The survey was sent out using United We Dream's DACA Renewal Network email list and was augmented using Facebook and Twitter posts as well as a peer-to-peer sharing strategy. This report presents some of the findings from the survey. To request complete results, please contact United We Dream.

The results of this survey add to the growing body of research about DACA that will help UWD and other organizations better understand the lives of undocumented immigrant youth and their families.

Some of the findings of the survey indicate:

- A regular gender imbalance in this and similar surveys of DACA recipients.
- There is a large community of lesbian, gay, bisexual, transgender, and queer (LGBTQ) DACA recipients that face added barriers of discrimination due to their identities.
- DACA recipients live with families with a wide range of immigration statuses.
- Although DACA recipients have been able to get more jobs, a lot of people still have trouble making ends meet.
- DACA recipients take a prominent economic and social role in their family.
- After DACA, a large percentage of undocumented youth have been able to get new and higher paying jobs, buy their first car, purchase health insurance, pursue educational opportunities, and become more financially independent.

While our survey shows that DACA is having a positive impact on many undocumented immigrant youth, it is still not enough. DACA recipients have taken on greater economic and social responsibilities for their families. They do all of this while still struggling to find economic opportunities and the tools and information they need to navigate health care, work, financial, and educational institutions.

Immigrant youth need more than DACA to succeed. Policy makers need to think creatively of how to invest in DACA recipients and immigrant youth broadly, this means including them in adequate social insurance programs, boosting wages, and creating viable workforce development and education benefits that lead to good jobs and good wages.

Investing in immigrant youth must be a key priority in order to achieve inclusive prosperity and economic justice for immigrant communities and the country as a whole.

The current landscape of Deferred Action for Childhood Arrivals

Since implementation in August 2012, the DACA program has given a large number of undocumented immigrant youth a two-year reprieve from deportation and temporary work permits.⁴ Administered by the U.S. Citizenship and Immigration Services (USCIS) under the Department of Homeland Security (DHS), to qualify for DACA, undocumented young people must meet a host of requirements.⁴

Deferred Action for Childhood Arrivals⁶

To be eligible for DACA, an undocumented immigrant must have:

- Passed a background check
- Been born on or after June 16, 1981
- Come to the United States before their 16th birthday
- Not have lawful immigration status and be at least 15 years old
- Continuously lived in the United States since June 15, 2007
- Been present in the country on June 15, 2012, and on every day since August 15, 2012
- Graduated high school or obtained a GED certificate. Otherwise, he or she must be an honorably discharged veteran of the Coast Guard or armed forces or currently attend school on the date he or she submits the application for deferred action
- Not been convicted of a felony offense
- Not been convicted of a significant misdemeanor offense or three or more misdemeanor offenses
- Not posed or pose a threat to national security or public safety

In addition to the requirements listed above, undocumented youth must pay \$465 for filing fees and fees for biometric services, including fingerprints and photos.

Collectively, these young people and their families have paid more than \$420 million in fees for DACA.⁷

According to the Migration Policy Institute, approximately 1.2 million undocumented youth were immediately DACA eligible as of 2013.⁸ An additional 402,000 people meet the age, age-at arrival, and year of arrival requirements for DACA, but do not meet the necessary educational requirements. Another 423,000 people will “age into” DACA when they turn 15 and meet all of the other requirements.⁹

In 2014, undocumented young people that received their DACA in 2012 began the process of renewal following the end of the initial temporary two-year deferral from deportation and work authorization.¹⁰

To date, USCIS has accepted more than 770,000 applications for DACA. As of June, 2015, 681,345 undocumented young people have received a work permit and relief from deportation.¹¹ Accordingly, 377,767 of undocumented youth with DACA have successfully renewed and hundreds of thousands of people are still waiting for their renewal acceptance or will begin the renewal process this year.¹²

There are a number of reasons why eligible undocumented youth may not have applied for DACA. The largest barrier consistently indicated is the program's application fee which is too steep for many individual-sand families, especially if many family members can qualify.¹³ Additionally, many people fear they cannot qualify due to their criminal history. For others, educational requirements are roadblock for those who could not complete their high school education.¹⁴

681,345
DACA
recipients

377,767
Successful
renewals

A snapshot of DACA recipients

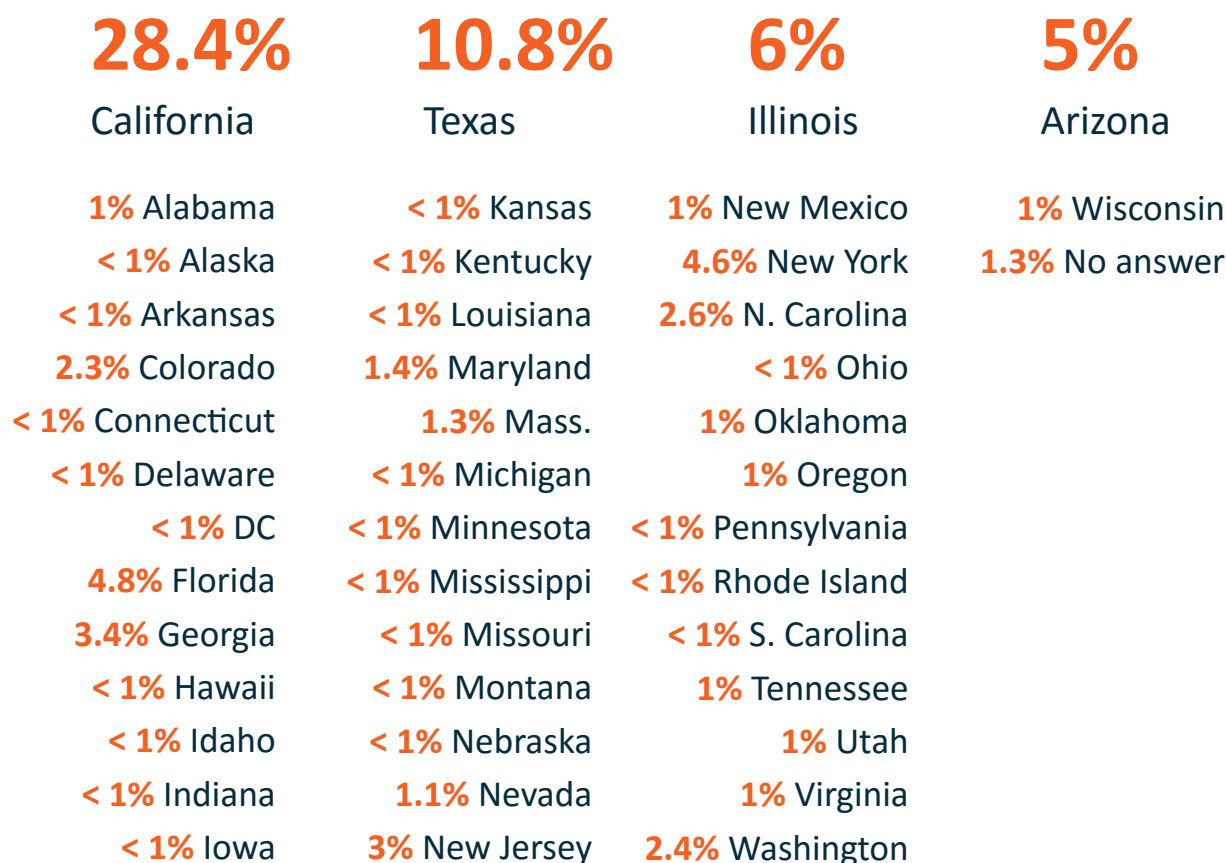
Already we have seen the extensive impact that DACA has had on undocumented immigrant youth and their families. The following sections of this report describe some of the findings of UWD's national survey of DACA recipients. This survey is one of the largest conducted of this population to date and can help provide better understanding of how national immigration initiatives can impact on the lives of immigrant communities.

State of residency

The largest share of survey respondents came from states with large immigrant populations. This is similar to national estimates regarding the overall undocumented population - California is home to a little over a quarter of the total undocumented population, while Texas has 12 percent, Illinois has close to 5 percent, and Arizona has nearly 2.5 percent.¹⁵

FIGURE 1

Survey respondents by state of residence



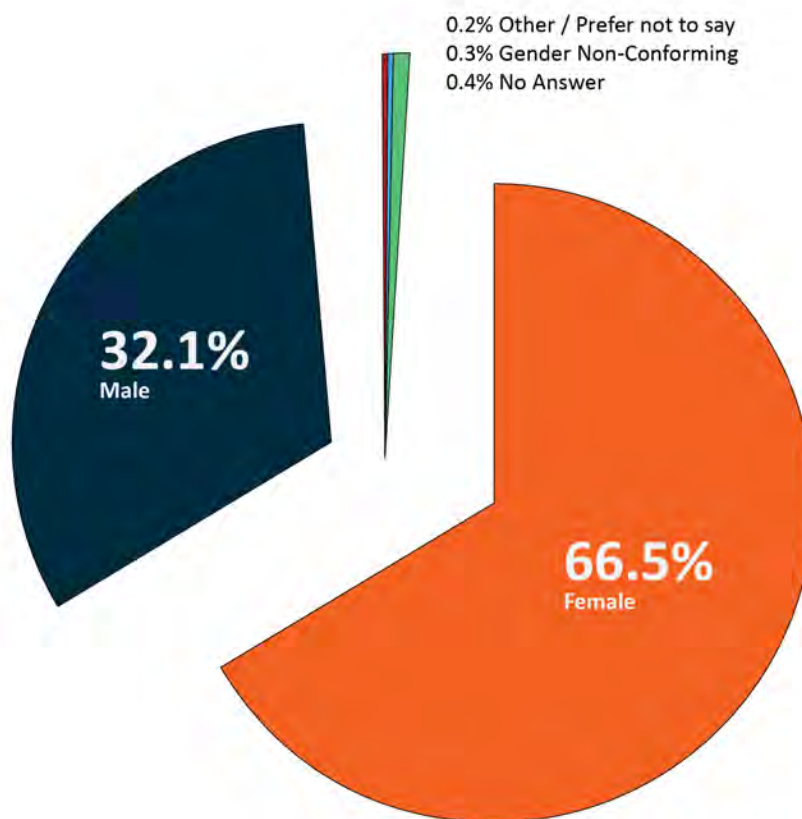
Source: UWD Survey of DACA Recipients, June 2015

The survey also shows a significant number of survey respondents live outside of those states with a large number residing in Southern states. This is reflective of the tremendous increase in the undocumented population in Southern states over the past decade.¹⁶ This growth, however, is coming at a time when many of these states have implemented significant restrictions for undocumented immigrants. For example, Georgia denies enrollment to all undocumented immigrants at public colleges and universities in the state.¹⁷

Demographics

DACA applicants have consistently split evenly between men and women. A recent estimate found that 51 percent of DACA applicants were female and 49 percent were male.¹⁸ Despite this split, data also show that the balance between males and females in the foreign born non-citizen population is actually tilted in the opposite direction.¹⁹ Generally, this population tends to be more male.²⁰ However, like other similar surveys, a large proportion of survey respondents, over 66 percent, identified as female.

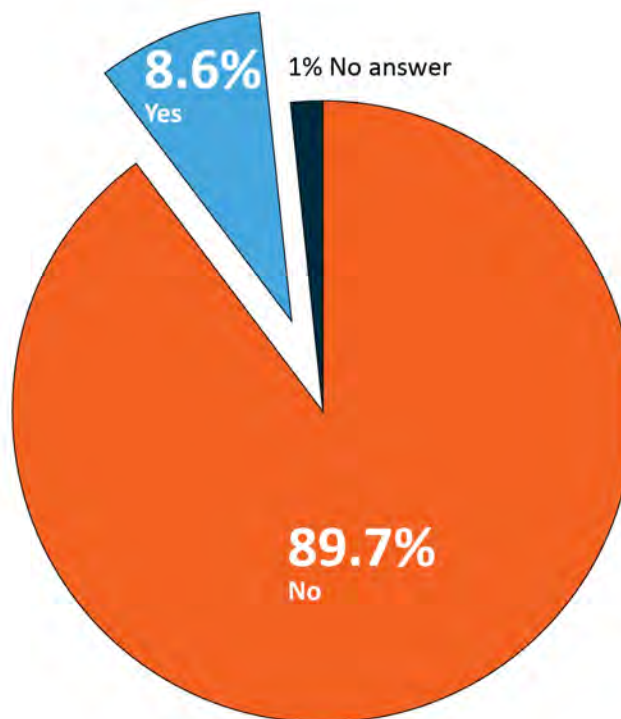
FIGURE 2
Survey respondents by gender



Source: UWD Survey of DACA Recipients, June 2015

Similarly, the survey had a large proportion of undocumented young people that identified as LGBTQ. Nationally, an estimated 3.4 percent of people of all ages in the country identify as LGBTQ – while an estimated 6.4 percent of those ages 18 to 29 identify as LGBTQ.²¹ However, 8.6 percent of our survey respondents identified as LGBTQ, a rate higher than the national average and higher for the 18 to 29 age group.

FIGURE 3
Survey respondents by LGBTQ identity

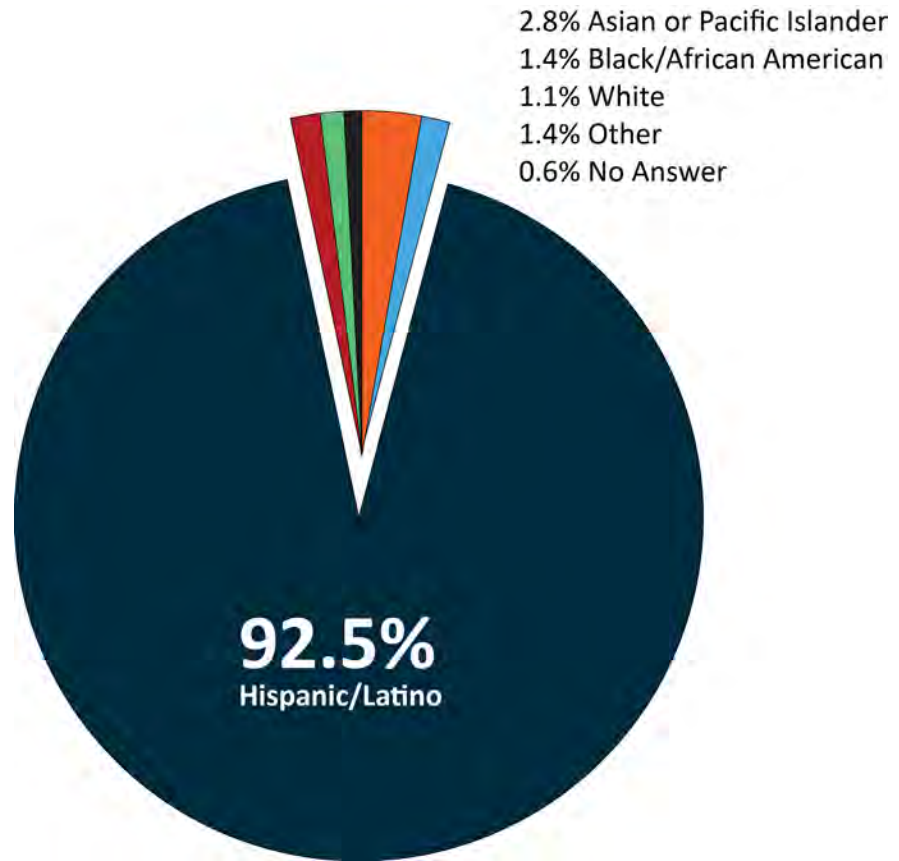


Source: UWD Survey of DACA Recipients, June 2015

These findings are consistent with a report by the Williams Institute that found that there are over 267,000 LGBTQ undocumented adults in the country.²² The survey's high rate of LGBTQ respondents could be due to UWD's large engagement with this community. Indeed, undocumented LGBTQ young people have consistently taken a prominent role in the immigrant rights movement.²³

Our survey respondents also overwhelmingly identified as Hispanic/Latino – these survey respondents represented 19 different countries in Latin America. Of the survey respondents that identified as Hispanic/Latino, over 82 percent of them were born in Mexico while those born in South America made up 8.4 percent and Central Americans made up 6.9 percent.

FIGURE 4
Survey respondents by race and ethnicity



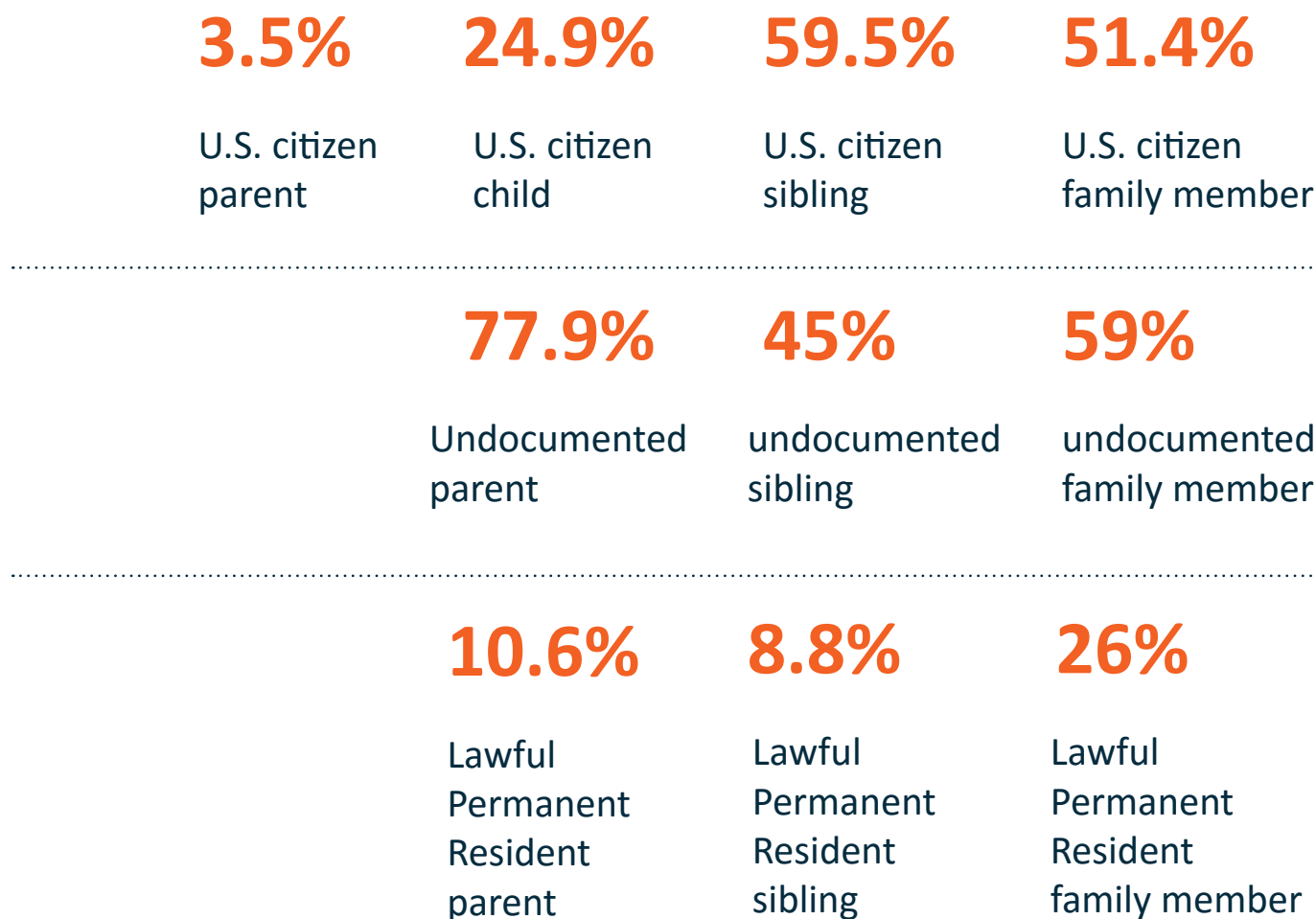
Source: UWD Survey of DACA Recipients, June 2015

In the survey, Mexicans made up 78 percent of total survey respondents. This is consistent with USCIS data that indicates that Mexicans make up slightly over 77 percent of all DACA recipients.²⁴ While the survey data is consistent with other such studies, the results point to a greater need to engage undocumented immigrant youth that do not identify as Hispanic/Latino. USCIS data show that Asian and Pacific Islander undocumented immigrants have not applied to DACA at the same rates as their Hispanic/Latino counterparts.²⁵

Family Structure

The survey indicates that DACA recipients live with families who have a wide range of immigration statuses. Similar surveys and experiences from the field have shown that the undocumented experience varies from family to family and that there are a large percentage of DACA recipients with parents, siblings, and children with different immigration statuses.²⁶

These findings suggests that DACA recipients could be greatly affected by the implementation of the new Deferred Action for Parents of Americans, a program announced by President Obama in November 2014 but which is under a temporary injunction by the 5th Circuit Court.²⁷ Indeed, another recent survey found that close to 40 percent of DACA recipients' parents could qualify for DAPA.²⁸

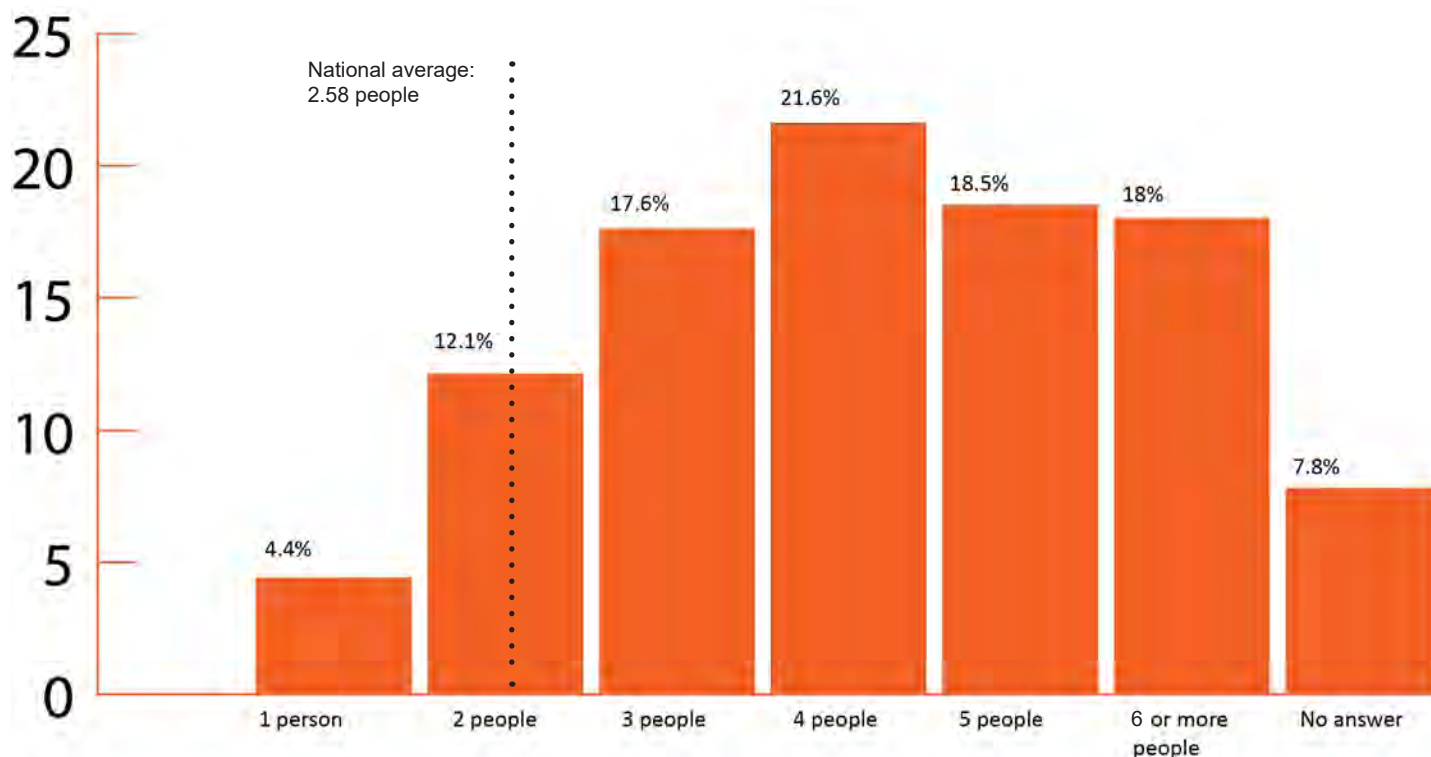
FIGURE 5**Percent of survey respondents with family members with the following immigration statuses**

Source: UWD Survey of DACA Recipients, June 2015

The survey also reveals that a large percentage of DACA recipients are already parents of U.S. citizen children. A quarter of survey respondents said they were the parent of a U.S. citizen child. Although the survey did not ask about their role as parents, consistent research shows that U.S. citizen children of undocumented parents could face enormous educational, health, and economic challenges because of their parents' immigration status.²⁹

In addition to the wide range of immigration statuses, over 57 percent of survey respondents indicated that they live in a household of 4 or more people. The average number of people living in a survey respondents home is 4.1 people - including the survey respondent.

FIGURE 6
Survey respondents by size of household

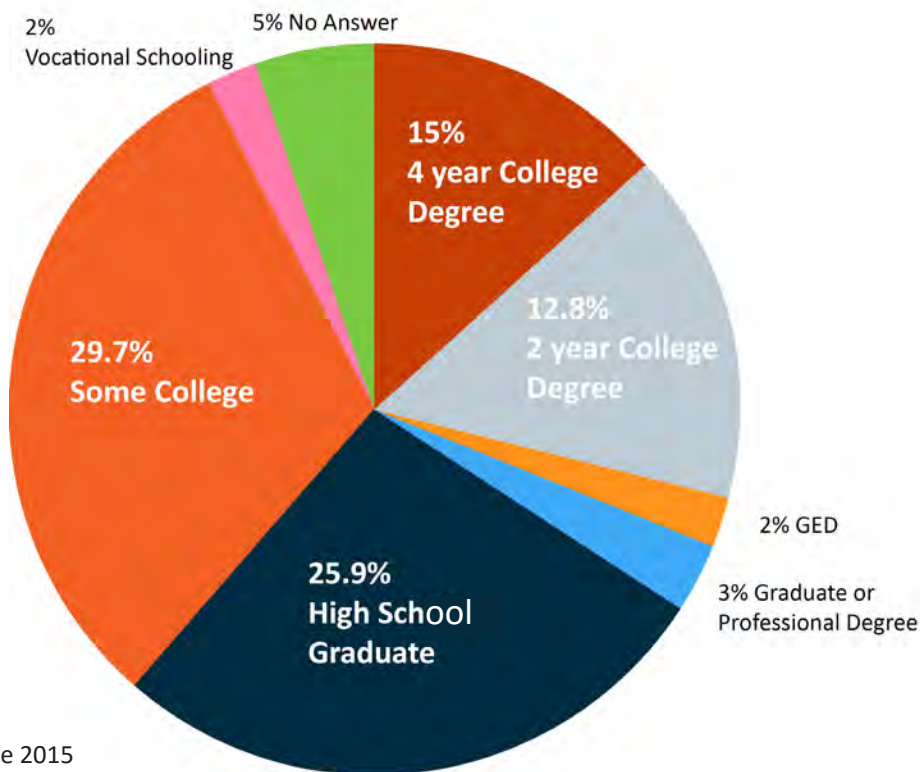


Source: UWD Survey of DACA Recipients, June 2015

Educational attainment

In 1982, the Supreme Court in *Plyler v. Doe* decided that all students, regardless of their immigration status, were guaranteed a K-12 education.³⁰ However, the court did not establish a guarantee to a postsecondary education. Instead of a uniform national policy to allow equal access to postsecondary education, undocumented students, including DACA recipients, must navigate a web of federal, state, and postsecondary institution policies.³¹

The most recent estimate indicates that each year, around 65,000 undocumented students graduate from high school.³² The web of complex policies for undocumented students coincides with inadequate information from high schools and postsecondary institutions, high levels of poverty, a fear of sharing immigration status, unanticipated cost increases for higher education, and the need to work to pay tuition—all of which create a situation where hundreds of thousands of undocumented students are left without a clear pathway towards higher education.³³

FIGURE 7**Survey respondents by highest level of education completed**

Source: UWD Survey of DACA Recipients, June 2015

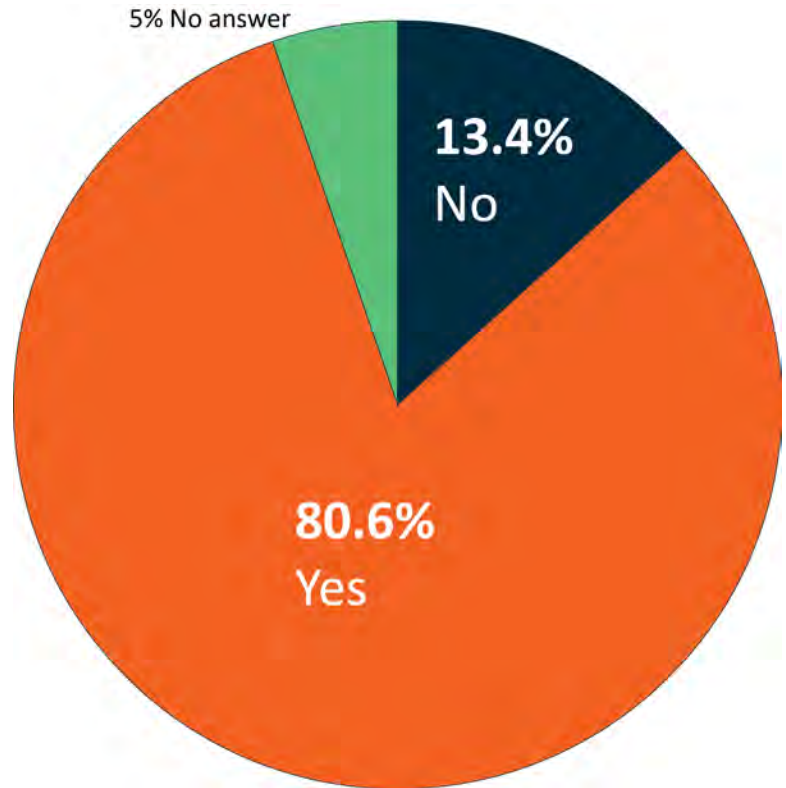
Despite these challenges, many DACA recipients are still finding their way through a postsecondary education. Survey respondents displayed a high rate of two-year and four-year postsecondary school completion, at 27.8 percent. This high rate of completion is not typical for the wider DACA population. An estimate by the Migration Policy Institute found that around 8 percent of those immediately eligible for DACA in 2012 had completed an associate's, bachelor's, or advanced degree.³⁴ The survey respondent's high rate of postsecondary education completion can be an indication of UWD's strength in engaging undocumented immigrant youth that are on the track towards higher education.

Much research has been done on the positive effects DACA can have on the educational attainment of undocumented immigrant youth.³⁵ The survey indicated that since they received DACA, 30 percent of survey respondents returned to school. This is consistent with other surveys that have shown that DACA can help ease some of the financial and legal burdens that undocumented immigrant youth face when pursuing higher education.³⁶

Employment and career aspirations

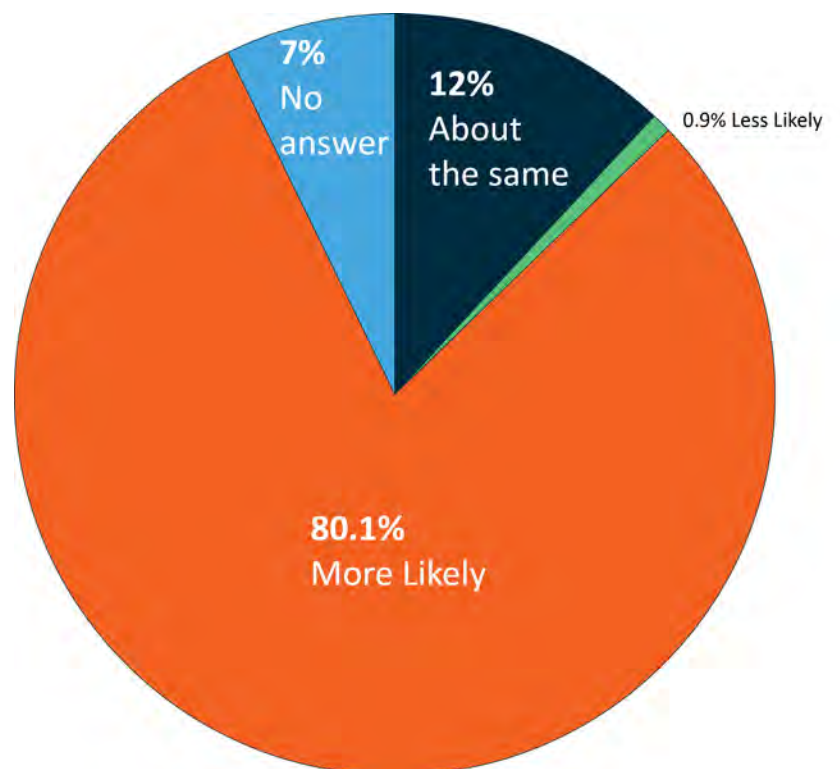
The survey found that DACA recipients are participating in the labor force in large numbers. Over 80 percent of survey respondents are currently employed. Additionally, over 80 percent of survey respondents indicated that since DACA, they feel like they are more likely to achieve their career goals. These results indicate that DACA allows undocumented young people to get jobs that better match their skills and training.³⁷

FIGURE 8
Survey respondents by employment



Source: UWD Survey of DACA Recipients, June 2015

FIGURE 9
How likely survey respondents feel they can achieve their career goals since DACA



Source: UWD Survey of DACA Recipients, June 2015

Despite these benefits, the survey revealed that respondents still face many barriers in the workplace. Over 85 percent of survey respondents felt that they've been held back from their career goals because of their immigration status and more than a quarter of survey respondents have felt discrimination in the workplace because of their immigration status.

FIGURE 10**Lack of progress and discrimination in the workplace based on immigration status****85.6%**

of survey respondents felt that they have been held back from their career goals because of their immigration status

26.4%

of survey respondents felt that they have been discriminated against in their workplace because of their immigration status

Source: UWD Survey of DACA Recipients, June 2015

This discrimination was especially pronounced for the large number of survey respondents that identified as LGBTQ. Research from the Williams Institute shows that LGBTQ people nationally continue to report high levels of discrimination in the workplace; this survey indicated a similar result.³⁸ Of the survey respondents that identified as LGBTQ, nearly 20 percent expressed that they have felt discrimination in the workplace because of their sexual orientation or gender identity and 20 percent said they felt that they have been passed over for a job because of their sexual orientation or gender identity.

FIGURE 11**Discrimination in the workplace for LGBTQ survey respondents****19.7%**

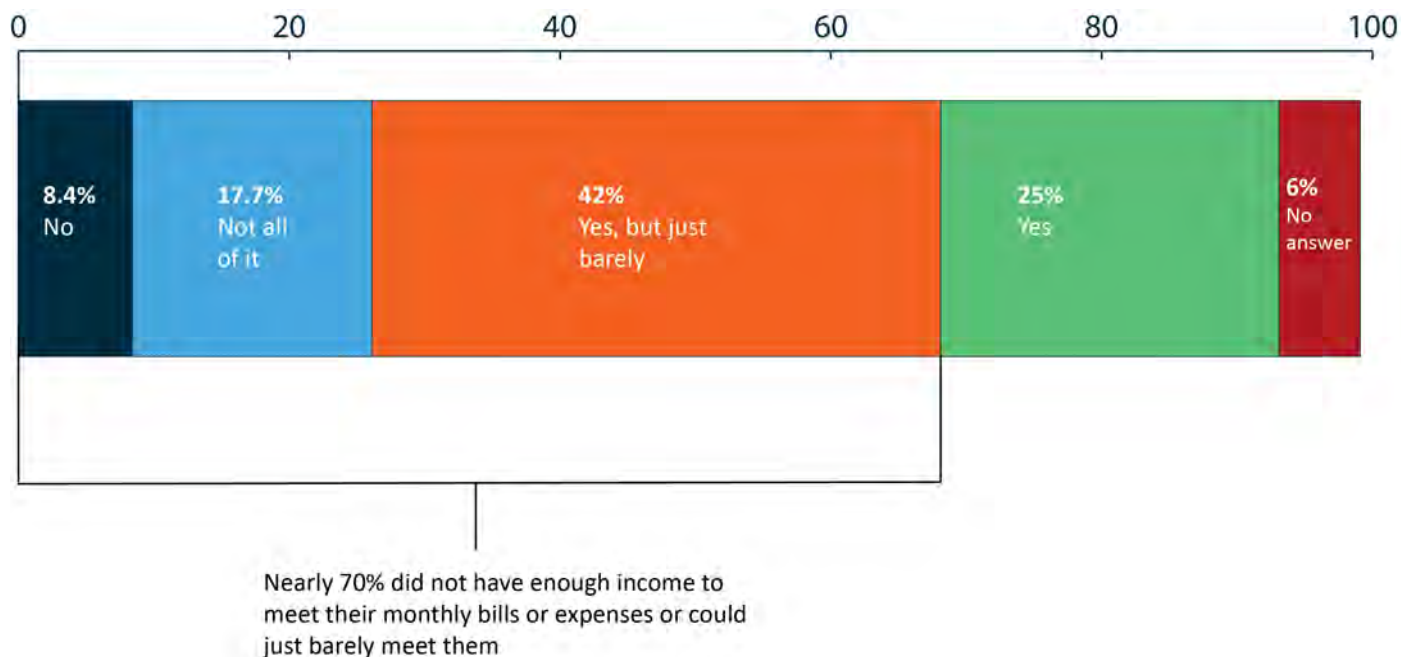
of LGBTQ survey respondents felt that they have been discriminated against in their workplace because of their sexual orientation or gender identity

20%

of LGBTQ survey respondents felt that they have been passed over for a job because of their sexual orientation or gender identity

Source: UWD Survey of DACA Recipients, June 2015

Survey respondents also displayed a high rate of financial instability. Only a quarter of survey respondents felt like their personal income is able to cover their monthly expenses. Although this rate is high, overall, 68 percent of Millennials – those between the ages of 18 to 34 – nationally say that it has become harder for them to make ends meet.³⁹

FIGURE 12**Survey respondents reported high levels of financial instability -****Is your personal income enough to meet all of your monthly bills and expenses?**

Source: UWD Survey of DACA Recipients, June 2015

In addition to their current employment, the survey asked respondents about their future career aspirations. Survey respondents selected the career they envision for themselves among different categories of employment type.

The results show that more than one-fifth of survey respondents envision a career in the health care field. Indeed, a large percent of survey respondents said that they envision a career involving science, technology, engineering, or mathematics (STEM). This corresponds to previous research of undocumented undergraduates that indicated that more than 28 percent of these students are currently pursuing a STEM degree.⁴⁰ Additionally, the second highest career envisioned is in the business and financial sector. Research shows that over 10 percent of undocumented undergraduates are pursuing a degree in business.⁴¹

FIGURE 13

Career envisioned by survey respondents

4.7%	Architecture and Engineering
4.7%	Arts, Design, Entertainment, Sports, and Media
< 1%	Building and Grounds Cleaning and Maintenance
14%	Business and Financial
6.5%	Community and Social Service (ex. Social Worker, Clergy, Community Organizer)
6.5%	Computer and Mathematical (ex. computer tech, Software Developer)
1%	Construction and Extraction
9.2%	Education, Training, and Library
< 1%	Farming, Fishing, and Forestry
1%	Food Preparation and Serving Related
22.5%	Healthcare Field (ex. Dentist, Pharmacist, Nurse)
1%	Installation, Maintenance, and Repair
4.3%	Legal (ex. Lawyer, Paralegal)
5.7%	Life, Physical, and Social Science (ex. Scientist, Psychologist, Urban Planner)
2%	Management (ex. Politician, Chief Executive)
3%	Office and Administrative Support
1%	Personal Care and Service (ex. Hairdressers, Travel Guides, Hospitality)
< 1%	Production Occupations (ex. Factory Worker, Butcher, Tailor)
1.8%	Protective Service (ex. Firefighter, Police/Law Enforcement)
1%	Sales and Related Occupations
1%	Transportation and Material Moving
6%	No answer

Source: UWD Survey of DACA Recipients, June 2015

Role in the family

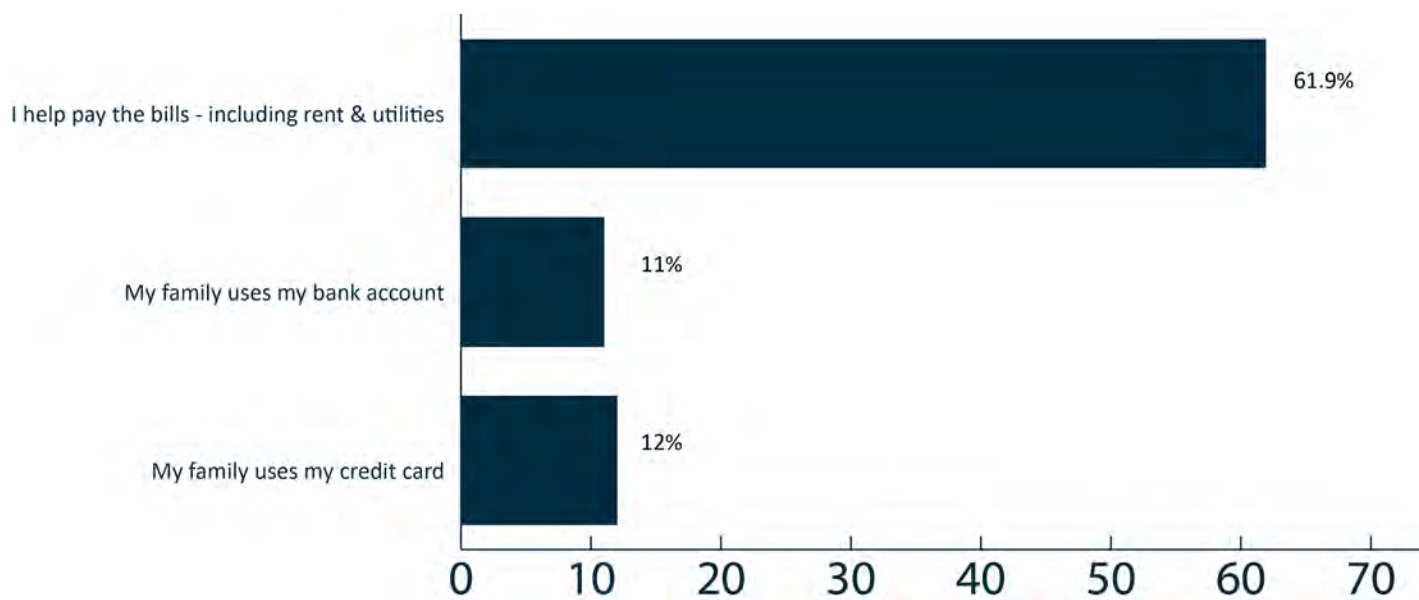
The survey results highlight the enormous responsibilities DACA recipients have in their overall family and household. Unsurprisingly, they are a huge source of information and resources for their family. The results suggest that young people, especially those with lived experience of being undocumented, could be the best way to get information to immigrant communities.

It also means that DACA recipients must have greater tools and information to take on such an important role in their family. Greater access to financial literacy and workforce development programs will lead to better outcomes for immigrant youth and their families.

Finances

Close to 62 percent of DACA recipients reported helping their family pay the bills - including rent and utilities. In many families, DACA recipients are often the only person with a work permit, which means many of them must help their family financially.⁴² They not only care for themselves, but their family's financial obligations as well.

FIGURE 14
Survey respondents handle many financial obligations for their families



Source: UWD Survey of DACA Recipients, June 2015

Additionally, 12 percent of DACA recipients reported that their family uses their credit card and 11 percent said their family uses their bank account. Although undocumented immigrants are not necessarily prohibited from opening bank accounts, many may find it difficult to fulfill a bank's necessary identification requirements.⁴³

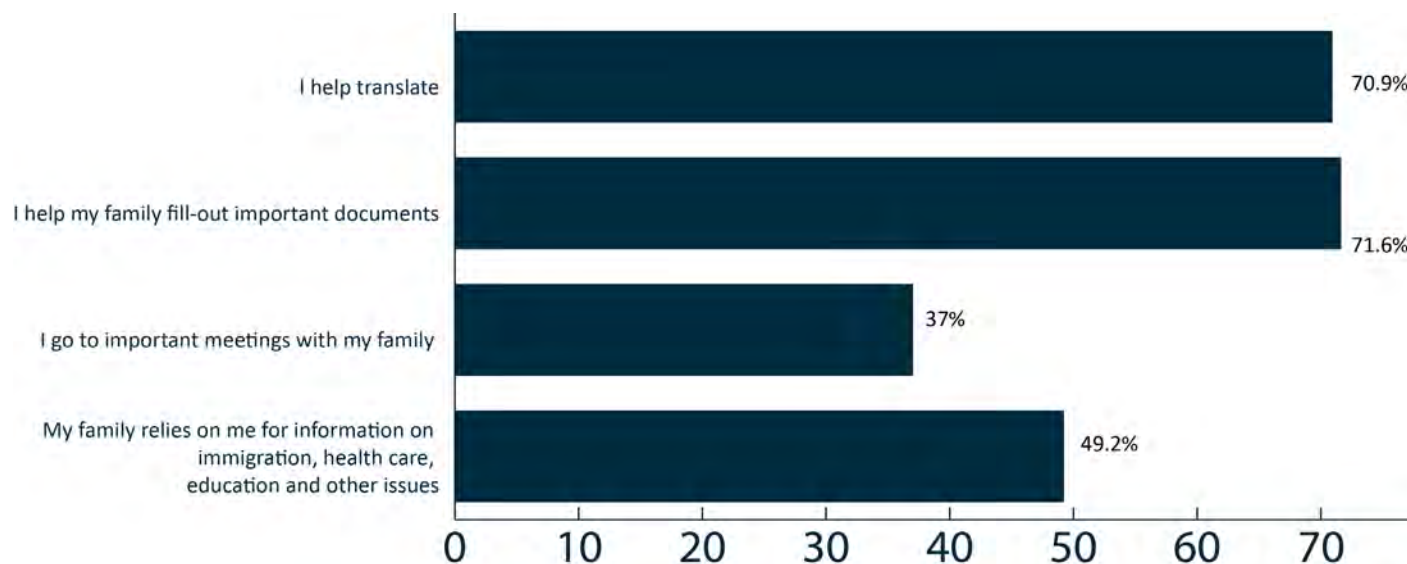
DACA allows undocumented young people to obtain identifications and overcome many of the bureaucratic obstacles family members might face when trying to open an account.⁴⁴ As DACA recipients take on these financial responsibilities, it will be necessary to ensure they are making financial decisions wisely while understanding the role of debt and credit.

Information

Numerous studies have shown the role of children of immigrants acting as a “middle-person” between their parents and any bureaucratic system.⁴⁵ The survey results showed a similar role for DACA recipients. Over 70 percent of DACA recipients are translators for their families, close to 72 percent help fill-out important documents, and 37 percent attended important meetings, like parent-teacher conferences for younger siblings, on behalf of their parents.

FIGURE 15

Survey respondents help translate and manage important information



Source: UWD Survey of DACA Recipients, June 2015

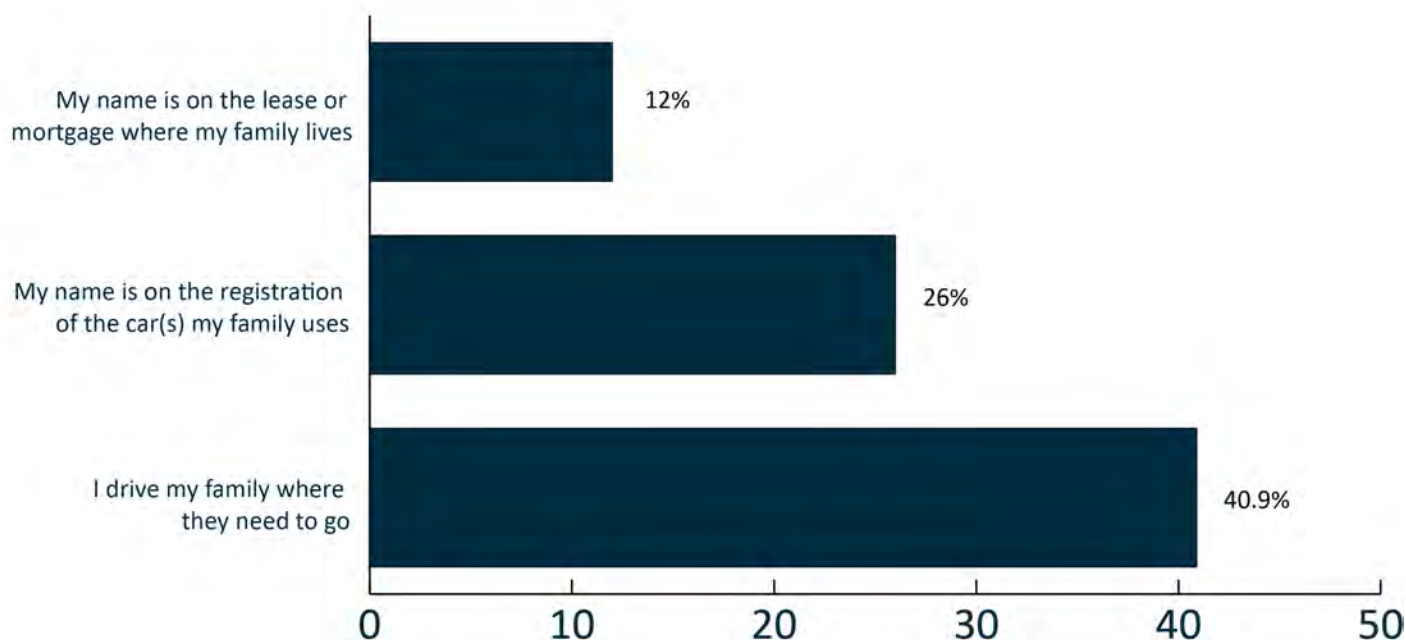
Overall, the study showed that DACA recipients are the “front-gate” or hub of information when it comes to their family members and how they interact with larger societal structures, especially relating to government, healthcare, or finances. Indeed, nearly 50 percent of DACA recipients said their family relies on them for information on immigration, health care, education and other issues.

Mortgage and car payments

In addition to helping pay small bills, the survey also revealed that DACA recipients are involved in decisions about mortgage, rent, and transportation decisions. For many families housing and cars are the biggest sources of wealth and loans.⁴⁶ Over a quarter of survey respondents said their name is on the title of the car their family uses and 12 percent said their name is on the lease or mortgage where their family lives.

FIGURE 16

Survey respondents help their family with big economic decisions



Source: UWD Survey of DACA Recipients, June 2015

Additionally, over 40 percent of DACA recipients said they drive their family to places they need to go. In a majority of states, undocumented immigrants cannot get a driver's license. However, as of this year, DACA recipients in all 50 states can now get their license.⁴⁷ This means many DACA recipients also have the responsibility to drive their family members when they are unable to do so.

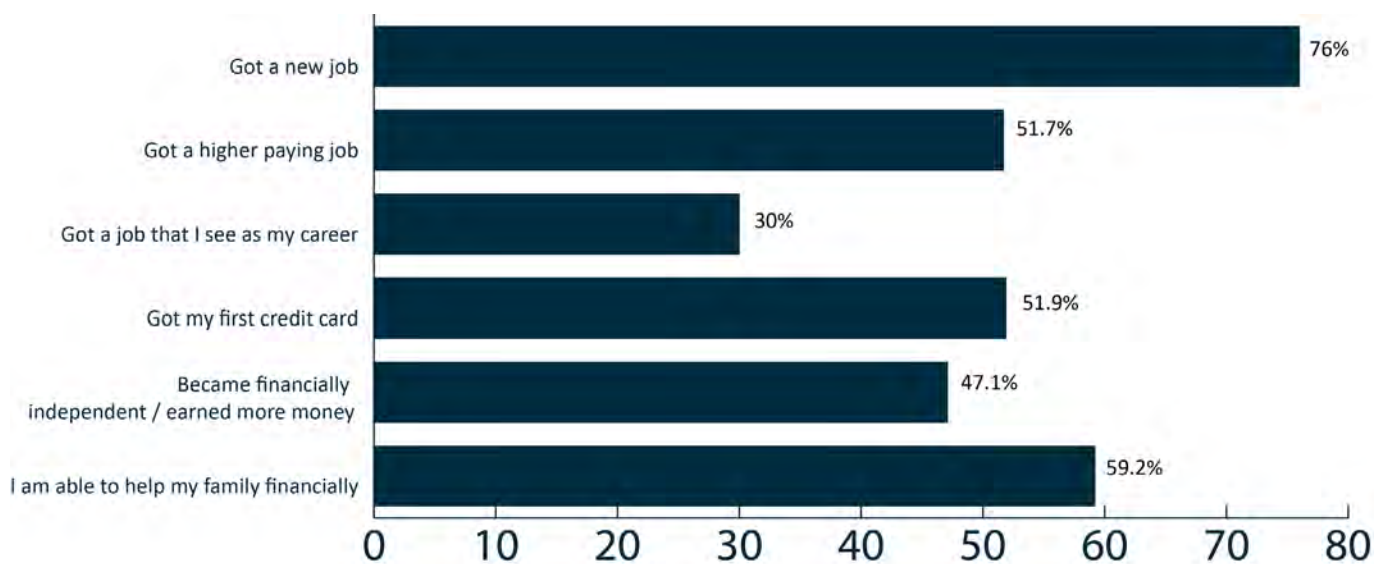
Changes since DACA

Three years out, there is a clearer picture of the benefits DACA has provided many undocumented young people. The following section of the report highlights the reported changes DACA has had on undocumented immigrant youth. The results show that DACA has not only given people more peace of mind, it has allowed them to achieve better economic opportunity, return to school, enroll in health insurance, and participate more in their local communities.

Economic opportunity

Over three-quarters of survey respondents have gotten a new job and more than half got a higher paying job. The survey also suggests that DACA recipients are aligning these new and higher paying jobs in fields that better suit their skills and interests. One in three DACA recipients has gotten a job that they see as their career.

FIGURE 17
Survey respondents reported improving economic opportunities



Source: UWD Survey of DACA Recipients, June 2015

Along with new job prospects, DACA recipients have been able to establish a better financial foothold for their future. More than half of DACA recipients have gotten their first credit and close to half have become more financially independent and are earning more money. This not only benefits the individual but their family as well. Close to 60 percent of DACA recipients indicated that they are now able to help their family financially.

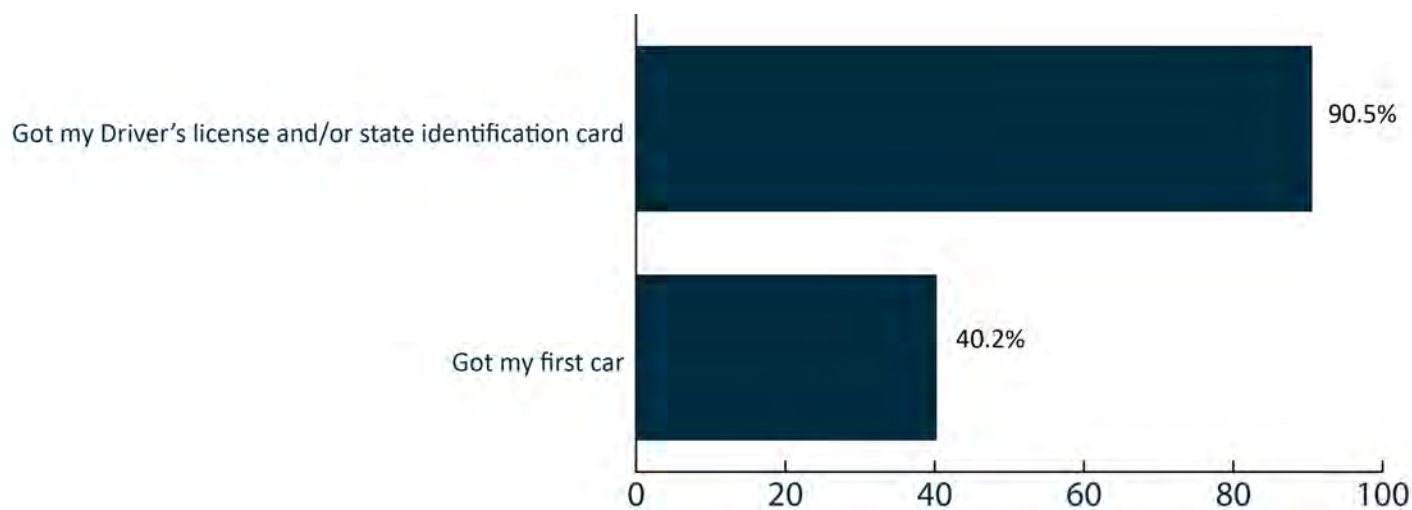
Although these changes have had a positive effect on DACA recipients and their families, the long term-effects still remain to be seen. The survey suggests that although DACA recipients are now earning more money and progressing in their careers, many still say they face barriers to advancing in their lives due to their immigration status.

Driver's licenses and cars

One of the most immediate challenges DACA recipients saw at the start of the program was the inability to get driver's licenses. As of this year, DACA recipients can now get licenses in all 50 states.⁴⁸ The study suggests that DACA recipients are taking full advantage of this with more than 90 percent getting their driver's license or state identification card. Additionally, four in ten DACA recipients have also gotten their first car.

FIGURE 18

A vast majority of survey respondents have gotten their driver's license and/or identification card



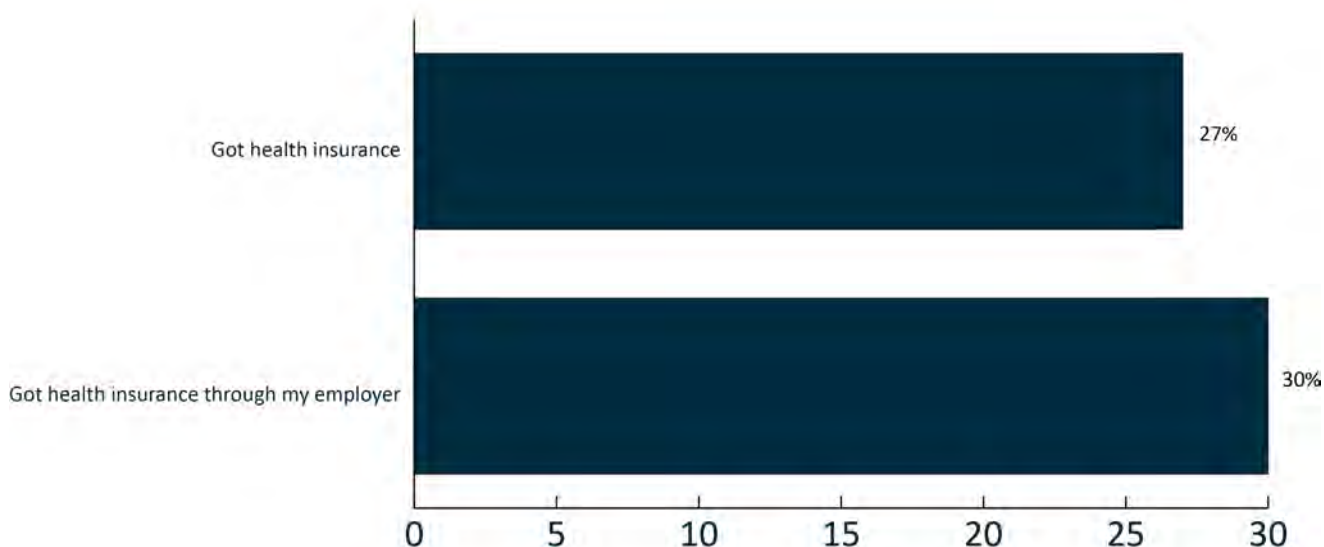
Source: UWD Survey of DACA Recipients, June 2015

Health insurance

Although undocumented immigrants, including those with DACA, are not eligible for the Affordable Care Act (ACA), some DACA recipients have been able to get health insurance.⁴⁹ Many DACA recipients have enrolled in college or university health care plans or have received new employment-based plans. Over a quarter of survey respondents said they got health insurance since DACA and 30 percent said they got health insurance through their employer.

FIGURE 19

Some survey respondents have gotten health insurance



Source: UWD Survey of DACA Recipients, June 2015

However, there is still a long way to go. DACA recipients continue to be barred from purchasing health insurance through the ACA and in California alone 50 percent of undocumented young people delayed getting the medical care they needed because they lacked health insurance.⁵⁰

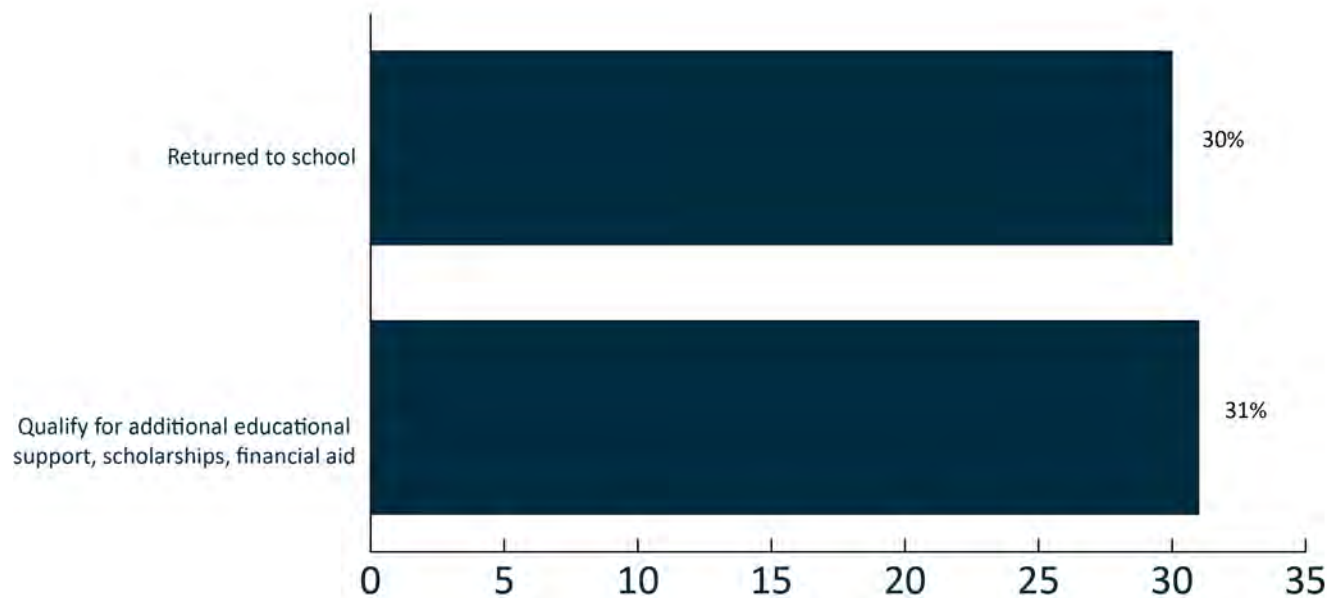
Returning to school

Since implementation, 30 percent of DACA recipients returned to school. Because the program requires a high school diploma or GED, the number of people returning to school reflects the people that decided to continue a postsecondary education. For many of these people, DACA has allowed them to more easily finance their education through work. Additionally, over 31 percent of DACA recipients are now able to qualify for additional education support, scholarships, and financial aid.

Since 2012, at least 4 states, and many more individual institutions have decided to allow DACA recipients to qualify for a lower in-state tuition rate for public colleges and universities and many more scholarship institutions have opened their funds to DACA recipients.⁵¹

FIGURE 20

Many survey respondents have returned to school or now qualify for additional support



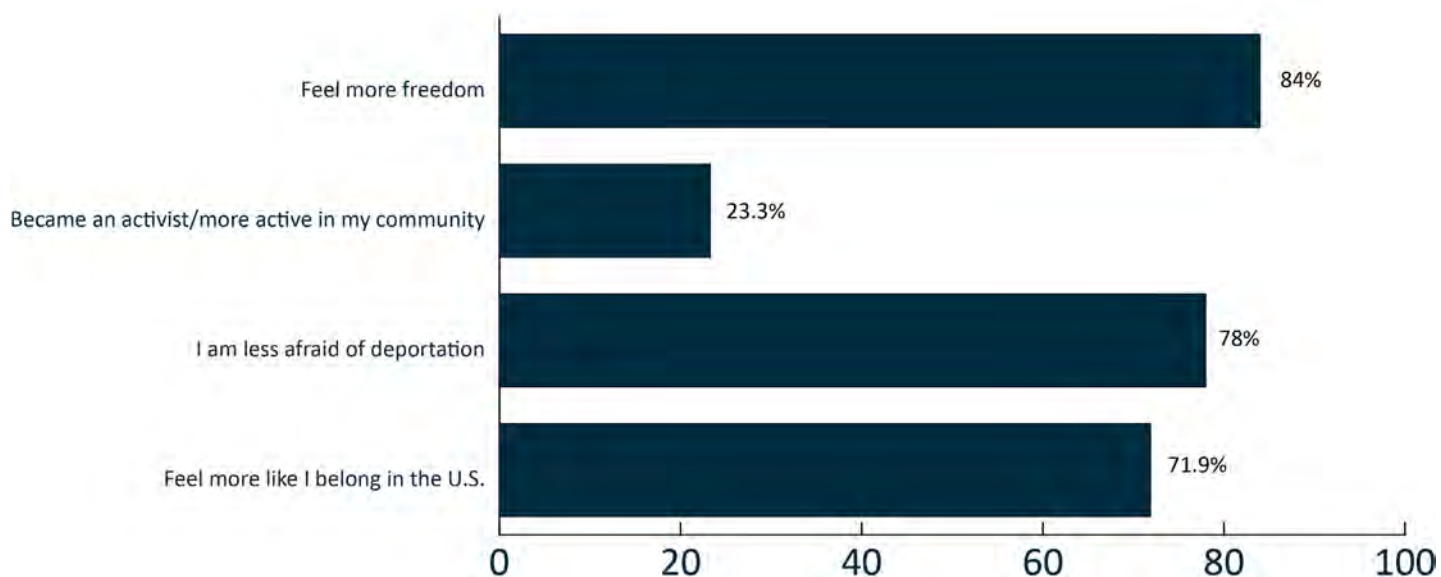
Source: UWD Survey of DACA Recipients, June 2015

Community participation and feelings of belonging

Besides the tangible economic benefits, DACA has also given people more peace of mind and allowed them to feel more comfortable in their daily lives and routines. Notably, more than three-quarters of DACA recipients say they are less of afraid of deportation. This corresponds with the 84 percent of DACA recipients that now feel “more freedom.”

The reduced fear has allowed more people to become active in their community. DACA recipients have already shown higher levels of community and political participation than their similar aged peers.⁵² This study discovered that nearly a quarter of DACA recipients have become more active in their community through political activism. Additionally, over seven in ten DACA recipients also reported that they now feel more like they belong in the U.S.

FIGURE 21
Survey respondents reported reduced levels of fear



Source: UWD Survey of DACA Recipients, June 2015

Conclusion

Three-years later, from increased economic and education opportunities to reduced feelings of fear, the effects of DACA on the lives of undocumented young people have been enormous. This survey allowed UWD to better understand the experiences, aspirations, and needs of undocumented young people that have been able to obtain DACA. Still, hundreds of thousands more could benefit from the program and have not applied for various reasons.

The results of the survey also point to the greater needs of the millions of undocumented immigrants living in the U.S. As of this publication, DAPA as well as the expanded DACA program are still on hold following an injunction placed by the 5th Circuit Court.⁵³ An additional 4 million people stand to qualify for these programs that, as this survey shows, could have a deep impact on the lives of undocumented immigrants.⁵⁴

Beyond the implications of DACA, the results of this survey also point to the broader socioeconomic needs among undocumented young people and their families. Too many are still struggling to get by and their hopes and aspirations face many roadblocks not only because of their immigration status, but also because they lack the tools and information they need to navigate health care, financial, workforce, and educational institutions.

Many immigrant communities still suffer from a lack of basic investment in their future even though these communities are a significant portion of the U.S. population. The results show that undocumented immigrant communities will continue to suffer unless policies are created to include them in shared prosperity.

DACA can serve as a model for successful investment in economic mobility only if immigrant youth are supported through workforce development and education that lead to better jobs and better wages. A concerted effort to address the needs of this community will ultimately create better outcomes for not only immigrants, but the country as a whole.

Endnotes

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